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SUBJECT (Descriptive title. Use individual reports for separate subjects)
(Unclassified)
INLAND WATERWAYS IN SIBERIA: III - THE AMUR RIVER

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AIR INTELLIGENCE INFORMATION REPORT

LIST OF INCLOSURES

1. Fig. 1 - Map of projected connection of the Amur River and De Kastri Bay in the Strait of Tartary via Lake Kizi

2. Fig. 2 - View of the Amur (photo)
   Fig. 3 - Russian village on the Amur River (photo)
   Fig. 4 - Amur River Upper Reaches (photo)

3. Fig. 5 - Plan of the city of Blagoveshchensk (diagram)

4. Fig. 6 - The city of Khabarovsk and outlying area (map)
   Fig. 7 - City Administration Building and Kray Administration Building in Khabarovsk (photo)

5. Fig. 8 - Komsomol'sk - na - Amure: New Apartment Buildings on Stalin Prospect (photo)
   Fig. 9 - Komsomol'sk - na - Amure: Apartment houses on Kirov Street (photo)

6. Fig. 10 - Plan of the Port of Nikolayevska - na - Amure (diagram)

STAT

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

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STAT

AIR INTELLIGENCE INFORMATION REPORT

TABLE OF CONTENTS

		Page
	Introduction	9
Chapter I.	General Outline of the Amur River Basin	14
	A. Length and Basin Area	14
	B. Boundaries of the Amur River Basin	15
	C. The Middle Amur Lowland or Plain	16
	D. The Bureya Mountain Range	17
	E. The Lower Amur Plain	17
	F. The Climate of the Amur River Basin	18
Chapter II.	Detailed Description of the Amur River	23
	A. The Upper Reaches of the Amur River - from the confluence of the Shilka and Argun' rivers to Blagoveshchensk	23
	B. The Middle Reaches of the Amur River - from Blagoveshchensk to Khabarovsk	27
	C. The Lower Reaches of the Amur River - from Khabarovsk to Nikolayevsk	31
	D. Lakes of the Lower Amur	35
	E. The Amur River Estuary and the Amur Gulf	36
	1. The Southern Fairway	38
	2. The North Fairway	39
	3. The Sakhalin Fairway	41
	F. The De Kastri Bay Area	42
	1. General Description of the De Kastri Bay Area	42
	2. Climate of the De Kastri Bay	43
	3. The settlement of De Kastri	44
	4. The Project of a Canal linking De Kastri Bay to the Amur through Lake Kizi	45

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.— 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

UNCLASSIFIED
(CLASSIFICATION)

STAT

AIR INTELLIGENCE INFORMATION REPORT

		Page
Chapter III.	Hydrological Description of the Amur River	53
	A. The Water Sources	53
	B. Discharge Conditions	55
	C. Variations in Water Level and Speed of Flow	58
	1. Water Level Variations	58
	a. On the Amur River	58
	b. In the Estuary and in the Bay of Amur (Tidal Currents)	60
	2. Speed of Flow	61
	D. Ice Conditions	62
	E. The Snow Cover	65
	F. The Solid Discharge and Chemical Content of the Amur River	66
	1. Solid Discharge	66
	2. Chemical Content	66
Chapter IV.	Tributaries of the Amur River	70
	A. The Shilka River	70
	Description - Note on Sretensk	70
	Hydrological Conditions	72
	Ice Conditions	73
	B. The Argun' River	73
	Description	73
	Hydrological Conditions	76
	Ice Conditions	76
	C. The Zeya River	76
	Description	76
	Hydrological Conditions	76
	Ice Conditions	78
	D. The Bureya River	80
	Description	80
	Hydrological Conditions	81
	Ice Conditions	81

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.—31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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STAT

AF FORM 112—PART II
APPROVED 1 JUNE 1948

UNCLASSIFIED
(CLASSIFICATION)

AIR INTELLIGENCE INFORMATION REPORT

E. The Sungari River 82

Description 82
Hydrological Conditions 83
Ice Conditions 83

F. The Ussuri River 83

Description 83
Hydrological Conditions 85
Ice Conditions 86

G. The Amgun' River 86

Description 86
Hydrological Conditions 87
Ice Conditions 88

H. Smaller tributaries of the Amur River 88

Amazar, Albazikha, Kumara, Bireya, Arkhara, Bidzhan, Bol'shaya Bira, Tunguska, Gorin.

Chapter V. Navigation Conditions 101

A. Duration of the Navigation Season 101

B. Depths on the Amur River 102

C. Accessibility of Rivers of the Amur River Basin (Table) 103

D. Classification of shoals on the Amur River and its main tributaries 105

E. Winds and Weather in the estuary of the Amur River and in the Bay of Amur. - Fogs. 108

F. Classification of Vessels plying the Amur River 109

G. List of Vessels plying the Amur River and its tributaries 109

Chapter VI. Port on the Amur River 115

A. Blagoveshchensk 115

B. Poyarkovo 116

C. Komsomol'sk - na - Amure 116
D. Khabarovsk 118
E. Nikolayevsk - na - Amure 121

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C. — 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

(CLASSIFICATION)

STAT

AIR INTELLIGENCE INFORMATION REPORT

		Page
Chapter VII.	Freight Traffic on the Amur River	130
	A. General Remarks	130
	B. Development of Freight Traffic on the Amur River	131
	C. List of Landing Stages and Ports with railroad stations	131
	D. Types of Freight Shipped on the Amur	132
	1. Petroleum	132
	2. Coal	132
	3. Timber	133
	4. Mineral Building Materials	134
	5. Metals	134
	6. Grain	135
	7. Salt	135
	E. The Amur Steamship Line	136
	1. Range of Operation	136
	2. Rush-towing on the Amur River	138
	3. Problems and Shortcomings	139
	4. Passenger Traffic	139
Chapter VIII.	Projected Developments	144
	Bibliography	150
	Inclosures	

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.—31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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Sanitized Copy Approved for Release 2010/09/24 : CIA-RDP81-01043R001000170002-6

AIR INTELLIGENCE INFORMATION REPORT

Abbreviated Designation of Sources

Apollov
Apollov, B. A., Ucheniye o Rekakh (Course on Rivers). Moskva, 1952.

Artamonov
Artamonov, D. S., Transport i Torgovlya po Vostochnoy Granitse SSR (Transport on the Eastern Frontier of the USSR). Moskva, 1928.

BNG (Brit. Navig. Guide)
South and East Coasts of Korea. East Coast of Siberia and Sea of Okhotsk Pilot). London, 1952.

BSE
Bol'shaya Sovetskaya Entsiklopediya (Great Soviet Encyclopedia) Moskva.

Chefranov
Chefranov, S. V., Geografiya SSR (Geography of the USSR). Moskva, 1955.

Davydov, 1953
Davydov, L. K., Gidrografiya SSR (Hydrography of the USSR) Vol. I, 1953.

EZDV
Ekonomicheskaya Zhizn' Dal'nego Vostoka (Economic Life of the Far East).

Guide to Trans-Sib.
Guide to the Great Siberian Railroad. St. Petersburg, 1900.

Liver & Kol
Liverovskiy, Yu. A. & B. P. Kolesnikov, Priroda Yuzhnoy Poloviny Sovetskogo Dal'nego Vostoka (The Nature of the Southern Half of the Soviet Far East). Moskva, 1949.

L. K. Davydov, V. II, 1955
Davydov, L. K., Gidrografiya SSR (Hydrography of the USSR). Vol. II, 1955.

Murzayev
Murzayev, E. M., Severo-Vostochnyy Kitay (North-Eastern China. Moskva, 1955.

NAP
Valyakhin, Nikolayevskiy na Amure Port (Port of Nikolayevsk-on-the- Amur). 1926.

Ocherki Akad
USSR Academy of Sciences, Ocherki po Gidrografii Rek SSR (Outlines of the Hydrography of USSR Rivers). Moskva, 1953.

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.— 31 AND 32 AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

UNCLASSIFIED
(CLASSIFICATION)

STAT

AIR INTELLIGENCE INFORMATION REPORT

Popkov
Popkov, I. F., Obshchaya Lotsiya Vnutrennikh Vodnykh Putey (General Navigation Guide to Inland Waterways). Moskva, 1955.

Putevoditel
Putevoditel' po Velikoy Sibirskoy Magistrali (Guide to the Great Trans-Siberian Railroad). 1903-04.

Slov. Geogr.
Bodnarskiy, N. S., Slovar Geograficheskikh Nazvaniy (Dictionary of Geographical Names). Moskva, 1954.

SSE
Sibirskaya Sovetskaya Entsiklopediya (Siberian Soviet Encyclopedia).

Turist
Sputnik Turista po Dal'nemu Vostoku (Tourist Guide-Book for the Far East). Khabarovsk, 1929.

US 122 B
Hydrographic Office of the US Navy. Publication No. 122 B, Washington, 1951. (Southeast Coast of Siberia and Korea)

Vodnosnost' Rek SSR
Davydov, L. K., Vodnosnost' Rek SSR i eye Kolebaniye i Vliyanie na Neye Fiziko-geograficheskikh Faktorov (Volume of Flow of USSR Rivers and its Variations and the Influence Exerted on it by Physical and Geographical Factors). Leningrad, 1947.

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INLAND WATERWAYS IN SIBERIA: III - THE AMUR RIVER

Introduction

The Amur River is the main waterway of the Soviet Far East, and the only major Soviet River emptying into Far Eastern waters. It is also the only Far Eastern waterway that is navigable along its entire extent.

The headwaters of the Amur River flow from the Trans-Baykal and from Mongolia. The Amur thus links Eastern Siberia and Mongolia to the Far Eastern seaboard, and through its right hand tributaries, the Sungari and the Ussuri rivers, it penetrates into the heart of Manchuria, almost to the Korean border, and to the southern portion of the Maritime Kray. The right hand tributaries of the Amur River serve as means of communications with the enormously rich, but so far, extremely remote areas stretching north and east of the Amur.

In consequence of its geographic location, the Amur River is a natural east-west carrier of commodities either produced and processed in its basin, or of rail-to-water transshipment traffic: grain from the rich plains of the Zeya-Bureya lowland, coal from the new developing Bureya coal basin, timber, which is a major eastbound cargo, and petroleum products and other commodities, to and from the ports of the Amur River.

The river hauled shipments of Sakhalin petroleum dropped sharply since the construction of the petroleum pipeline* and in the future the increase of petroleum shipments on the Amur River will be possible only by shipping on this waterway products of local refineries and the transfer from rail to river haul of petroleum products coming from the west to supply the Okhotsk seaboard and Kamchatka. The transshipment in Blagoveshchensk from rail to water of petroleum products going to areas on river and not connected by railroads will liberate the railroad on a distance of over 1,000 km and will prove very economical, for the expense involved in the mixed rail and water haul with transshipment at Blagoveshchensk will be less than by all rail haul in a direction parallel to the Amur .(1)

But while the petroleum shipments on the Amur River have decreased, the importance of shipments of metallurgical products is increasing

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* It is not made clear by Solov'yev, whether he confirms here the existence of the Sakhalin - Mainland - Komsomol'sk pipeline, or only of a pipeline on the mainland itself. According to a 1951 publication of the Hydrographic Office of the US Navy (Sailing Directions - South-east Coast of Siberia and Korea, H. O. Pub. No. 122, B, page 36), this pipeline extends from Okha to Moskal'vo, and then from Moskal'vo first to Mys Pogobi on Sakhalin, then to Mys Lazareva on mainland, and finally to Komsomol'sk on Amur via De Kastri.

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with the development of the metallurgical centers of Komsomol'sk and Khabarovsk, and growing shipments of products to and from plants located there.

The importance of the Amur River, not only as a waterway carrying bulk freight, but also as a source of hydropower is supposed to grow further according to the plans now under consideration.

But although the Amur is theoretically navigable along its entire course, traffic is hampered by the shoals and the numerous shallows. Occasional recurring floods on the other hand, cause great damage to navigation and also to the bordering settlements and towns. Considerable river regulation works should therefore be carried out to improve the navigability of the Amur River.

"Regulation of the flow of the Amur River basin would improve navigation conditions by eliminating the shallowness that makes navigation difficult, particularly in the upper reaches, and also on the Zeya River. The creation of large reservoirs on rivers of the Amur basin will permit maintenance of navigation depths sufficient for the passage of modern river vessels on the entire course of the Amur, and thus increase its importance as the common waterway of Northern China and the USSR." (2)

According to preliminary surveys, the above mentioned reservoirs indispensable to eliminate the problem of floods on the Amur River, should be built on the Zeya, Sungari and Ussuri rivers, also on the Upper Amur, and later on on the Shilka and Argun' rivers, the headwaters of the Amur, and on the Bureya River. (3)

The desire to utilize the Amur as a waterway to its fullest capacity has let to the resurrection of the thirty year old project of connecting the lower reaches of the Amur to De Kastri Bay, thus eliminating the lower, colder and less accessible reaches of the Amur in favor of the warmer and more convenient Bay, but so far, the project of which more is said in Chapter II does not seem to have been realized.

The creation of a second metallurgical center, besides that of Komsomol'sk, which was greatly developed after the war, has already been voiced. In an article published in June 1956, in the "Promyshlenno-Ekonomicheskaya Gazeta", A. Prostov, voiced the opinion that is would be wise to start construction of a "second," similar center (to that of Komsomol'sk) in the Middle Amur area, where lie rich deposits of coal (Bureya coal basin) and iron ore, and where there are great resources of hydropower. Construction of such a center, according to Prostov, would reduce by some 1,000 km ore and fuel shipments and bring industrial enterprises closer to the sources of raw material and to the consumer.(4)

While the sixth Five-Year Plan envisages the beginning of the construction of the Angara - Yenisey industrial basin, the third metallurgical base of the USSR, the seventh Five-Year Plan shoul lay the foundations for a fourth metallurgical center in the USSR, the Aldan - Amur industrial region, built on the iron ores of the Amur and Aldan rivers and the south Yakutian coking coals. (5)

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In order to prepare the development of the area, Prostov considers that a railroad should link the coal and ore deposits with the Amur trunkline and a motor highway linking Bol'shoy Never station to Yakutsk should be constructed.(6)

The development of the industry and agriculture of the area according to the plan requires the preliminary establishment of a hydropower base, which at present is not sufficient even for existing daily requirements.(7)

The construction of great hydro-electric power plants to take care of the growing industry of the Soviet Far East will further increase the importance of the rivers of the area.(8)

Several powerful rayon electric heat and power plants should be built first near Bukachachinsk* and other coal deposits. They should help satisfy the immediate needs of local industry, electrify the railroad and supply power to the larger constructions.

Only a widescale utilization of the hydropower resources of the Amur River can solve radically and the most rationally the electrification problem of this area. Preliminary calculations and studies of the problem show that 9 large hydroelectric power plants with a high degree of technical and economical indices and a total capacity of over 10,000,000 kw can be built on the Amur and on its tributaries, the Zeya and the Bureya rivers.(9)

To satisfy the needs in hydropower of the Aldan - Amur industrial and metallurgical area alone 5 to 6 hydroelectric developments with a total capacity of 5,000,000 kw should be built. Two hydroelectric power plants should be built first: the first on the Amur, below the confluence of the Shilka and Argun' rivers (in the Bznalinda village area), and the second on the Zeya, in the mountain canyon near Zeya city. These hydroelectric developments will not only supply great power, but will likewise regulate the flow of the upper reaches of the river, cut down the level of spring floods and improve navigation conditions on considerable distances.(10)

The Middle Amur industrial region could be supplied with electric power by the construction of one large hydroelectric development on the Amur River and one of two hydropower plants on the Bureya River. The above plants would have an aggregate capacity of about 3,000,000 kw.

The best results from the economic point of view would be obtained by the construction of the Malo-Khinganskaya GES on the Amur River.(11)

Construction of hydrodevelopments on the Lower Amur calls for considerable flooding of the floodbeds and requires large scale earth and concrete works, but this effort will be paid off by increased shipments to Komsomol'sk.

Economically, the hydroelectric developments on the Amur are far more justified than for instance, the Cheboksary GES now planned on the Volga River. Construction of a hydropower plant in the immediate proximity to Komsomol'sk seems especially desirable. (12)

* Raychikhinsk, Bukachachinsk

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The climatic conditions of the Amur area and the great distances between the construction sites and the nearest towns or settlements call moreover for a different organization of labor and system of work in the Amur area as compared to the methods in use in other parts of the USSR.

The present report gives a picture of the Amur River Basin as it is now and shows the problems and difficulties facing navigation and the general development of the area.

A first chapter is devoted to a general outline of the Amur River Basin, a description of the more salient characteristics and the climate. The second chapter describes the course of the mighty river, dividing it according to the divisions favored by most authors, into three major parts and then the estuary, where the proximity of Sakhalin island and the presence of a shallow bar across the mouth of the Amur create a peculiar system of currents, tides and navigation conditions. An appendix to the chapter describes the De Kastri Bay area in view of the interest aroused in this region because of the long discussed projected canal linking the Amur River to De Kastri Bay.

Chapter III studies the hydrological conditions on the Amur River, and Chapter IV describes the main tributaries of the Amur, giving also data on their hydrological conditions and ice conditions.

Chapter V analyzes the navigation conditions on the Amur River, the duration of the navigation season, the accessibility of rivers in the Amur River Basin, also presents a chart of types of shoals on the Amur River and its tributaries and a list of vessels mentioned as plying the Amur and its tributaries.

In the sixth chapter, the ports along the Amur River are described in their broad characteristics, with emphasis on accessibility to vessels and a seventh chapter analyzes freight traffic on the Amur River on the basis of available material, and the main types of cargo carried on this stream. A description of the Amur Steamship Lines is given and the problems and shortcomings of the organization of navigation and traffic on the river are briefly presented.

Soviet open sources are used throughout the study, the most recent ones being used whenever possible, especially concerning freight traffic, types of cargo, problems of shipping, port installations and approaches, and industrial developments. Geographical conditions have changed little over the years owing to the remoteness of the area and the far lesser degree of its development if compared to other areas of the USSR. Moreover there have been no war damages to repair and the overall aspect of the area and its inhabited places, with a few exceptions, has changed little. It must be added that detailed geographical, topographical and hydrographical informations are frequently given with more details in less recent sources and therefore these have been widely used parallel with recent sources when these were available.

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Reference Notes

Introduction

1. I. S. Solov'yev, Planirovaniye Perevozok Gruzov Rechnym Transportom (Planning of River Hauled Freight Shipments), Moscow, 1955, p. 59.
2. Pravda, 12 November, p. 2, No. 317.
3. Ibid.
4. Promyshlenno-Ekonomicheskaya Gazeta (Industrial and Economic Journal), No. 60, 17 June 1956, p. 2.
5. Ibid.
6. Ibid.
7. Ibid.
8. Vodnyy Transport, No. 28, March 1956, p. 1.
9. Promyshlenno-Ekonomicheskaya Gazeta, No. 60, 17 June 1956, p. 2.
10. Ibid.
11. Ibid.
12. Ibid.

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Chapter I - General Outline of the Amur River Basin

A. Length and Basin Area

B. Boundaries of the Amur River Basin

C. The Middle Amur Lowland or Plain

D. The Bureya Mountain Range

E. The Lower Amur Plain

F. The Climate of the Amur River Basin

Chapter I - General Outline of the Amur River Basin

The Amur River is the largest river in the Soviet Far East and one of the main waterways of the Soviet Union.(1) The Chinese name for the Amur is Heilungkiang (Black Dragon River) and also "Hei-Ho" (Black River)(2)and it takes on the name of Amur from the village of Pokrovskoye, (Pokrovka or Pokrovsk), at the confluence of its headwaters, the Shilka and the Argun' rivers (3), starting from which point the Amur flows until the Ussuri River, as the boundary line between the USSR and China.

The natives of the lower reaches of the Amur call the river Many, and according to some explorers, Amur may have been a corruption of Mamu. According to others, Amur is the corruption of "Kharamuren" (Black River), the name of the Amur among Mongol-Tungus tribes. N. Ya. Marr explained the work "Amur" as a composite of "amur", both elements of which in the past expressed the meaning of the river (see the Kazakh "imar" - great river).(4)

A. Length and Basin Area

According to a 1949 source, the Amur River holds the eighth place among world rivers as to length, the tenth as to basin area and the fourth among USSR rivers (after the Yenisey, Lena and Ob' rivers) as to the volume of water it carries, but ahead of the Volga.(5)

The length of the Amur River, usually measured from the confluence of the Shilka and Argun' rivers, is 2,846 km*.(6)

*According to some sources, the Amur River is 4,343 km long (Ye. M. Murzayev, p. 105; BSE, V.2, 1950, p. 307) including the Shilka and the Onon. According to other sources, the Amur is 4,350 km long (A.M. Gavrilov, p. 16) or 4,250 km starting from the headwaters of the Onon River to the estuary, (SSE, V.1, 1929,p. 98). Taking the Shilka River as the headwaters of the Amur, the length of the Shilka-Amur system would then be 4,510 km.(Popkov, p. 306, 1955).

From the confluence of the Shilka and Argun' rivers where the Amur proper begins, the length of this river according to several sources, is 2,850 km(Ocherki Akad.,p.227; Apollov, p.51, 1952; Davydov & Tsunts, p.184; Popkov, p.306, 1955; and L.K.Davydov, p. 331). According to other sources, the length of the Amur River is 2,870 km from Pokrovka at the confluence of the Shilka and Argun' rivers to the estuary (BSE, V.2, 1926, p. 558; SSE, V.1, 1929, p. 98). A later source also gives the distance between these points as 2,846 km. (BSE, V. 2, 1950, p. 307) as does Davydov, in 1955.

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When accepting the hydrologically more correct point of view in figuring the length of the Amur from the headwaters of the Onon River, the Amur River is 4,367 km long. The Amur is even longer if its length is measured from the headwaters of the Kerulen River. (7)

According to some sources, the drainage basin of the Amur River covers 1,843,000 sq km.(8) This area gives the Amur fourth largest place among USSR rivers (after the Yenisey, Ob' and Lena rivers) (9) and is about 58% of the area of the Pacific Ocean Basin.* (10)

The Amur River system comprises about 200 tributaries in all, most of which are left bank tributaries, and the largest of these being the Zeya, Bureya, Amgun' (11), Argun', Sungari and Ussuri rivers.(12)

The left bank area of the Amur River basin, receives a considerable volume of sediments, because it has a more developed hydrographic network than the right bank, although both areas cover an almost equal territory. (13)

Mountains and plateaux take up a considerable part of the Amur River basin, while lowlands are found only in the middle and lower reaches of the river. (14)

The right bank of the Amur River, with the exception of the Ussuri River basin, lies beyond the boundaries of the Soviet Union.(15)

B. Boundaries of the Amur River Basin

The northern boundaries of the Amur River basin are formed by the watershed separating the latter from the Lena River basin and which passes along the Dzhagdy, Stanovoy and Yablonovoy mountain ranges, Here elevations vary between 700 and 1,500 m above the sea level and seldom exceed 2,000 m. (16)

The Stanovoy Khrebet (mountain range) extends from the headwaters of the Olekma River, a right bank tributary of the Lena River, along the 56th parallel to the Sea of Okhotsk.** (17)

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*Just as an example of the divergences of opinion on the matter, an earlier source (1929) states that the Amur River drainage basin covers an area of 2,054,510 sqkm and ranks 9th among world rivers (SSE, V.1, 1929, p.98). A 1949 source confirms the area (2,054,510) while a 1955 source estimates the drainage basin at 2,050,000 sq km (Popkov, p.306,1955) and a 1951 source at only 1,840,000 sq km. (A.M. Gavrilov, p.16).

**According to another source, the Stanovoy mountain range, facing the Lena River basin, has no watershed significance, because the rivers of the basins of the Lena and Amur rivers including the Lena take their source not from the watershed range, but from an elevated plateau bordered to the north and south by mountain ranges through which rivers flow either to the Lena basin or to the Amur. The bordering ridge facing the Lena basin is called the Stanovoy range. (L.S. Berg, Priroda SSR, 1955, p. 396).

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Westward, the Stanovoy range, passes into a system of ridges called by L.S. Berg the Olekma - Baykal system, and belonging, according to him, entirely to the Lena River system. (18)

The Stanovoy range has altitudes reaching 2,500 m. (19)

Southward, the Stanovoy range is separated from the lowlands of the upper reaches of the Zeya and Uda rivers by the ridges of the Yankan-Tukuringra - Dzhagdy mountain ranges. Elevations reach almost 2,300 m in the latter range. (20)

The western boundaries of the Amur River basin follow the Kenteyskiy Khrebet (mountain range) and the watershed line forming the southern boundaries of the basin passes through the Mongolian Peoples' Republic and is only slightly expressed. (21)

The Amur River basin is separated from the basin of the Yellow Sea by the Chang Pao Shan mountain range. (22)

Further, eastward, the Amur River basin is limited by the southern outspurs of the Bol'shoy Khingan mountain range. (23) Then still further east is bounded by the Sikhote-Alin mountain range which extends to the very mouth of the Amur River (24)

C. The Middle Amur Lowland or Plain

The Zeya - Bureya (or Middle Amur) lowland, covered with a luxuriant vegetation and fertile soils lies to the east of the lower reaches of the Zeya River. (25) between the Stanovoy and Bureya ranges. (26)

In the south-western part of the Zeya-Bureya lowland, there are found soils resembling real black soils, and lying above heavy clays and covered with fields and meadows. But they are not black soils for neither their grain structure in the upper strata, nor the accumulation of carbonates in the lower strata are those of black soils. In the summer, the strata of humus are saturated with water. These soils that grow meadows and semi-marshes, are also podzolized, but no less fertile than the real black soils. (27).

There also occur soils of a clearly podzolized type, covered with white and black birches and Manchurian oak. Explorers of the Zeya-Bureya lowland are of the opinion that this area was once almost entirely covered with forests, later cleared for crops. (28)

Deposits of so-called Tsagayan (or Tsagoyan) coal formations - sandstones, shales with interlayers of coal and other soils, lie at the basis of the stratifications forming the Zeya-Bureya plain.* These cretaceous layers of coal are thin and of poor quality. (29)

The layers of tertiary deposits of the Zeya-Bureya plain, (sands, conglomerates, frequently iron, clays, clayey shales and sometimes coal layers are distinguished by their temporary character. Their

* The Bureya coal basin, consisting of mezozoic sediments is located between the western slope of the Bureya range and the upper reaches of the Bureya River. (L.S. Berg, p. 451).

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stratification has vertical as well as horizontal direction and the layers of tertiary coals sometimes reach 2 to 5 m in thickness.(30)

D. The Bureya Mountain Range

The Bureya mountain range, the eastern boundary of the middle Amur region (31) is a series of ridges that starts in the area of the headwaters of the Selemdzha River, a left bank tributary of the Zeya River, crosses the upper reaches of the Bureya River, and then extends south to the Amur River.(32), following a direction almost parallel to the Bureya River, on its left bank.(33)

The Bureya chain of mountains is at its widest at its north-eastern extremity (34), where its width reaches 400 to 500 m (35) and where the highest elevations(36) are located (2,180 m maximum).(37)

To the south, the Bureya range narrows, becomes lower, and after crossing the Amur River, passes into Manchuria under the name of Malyy Khingan Range.(38)

The name of Malyy Khigan is also sometimes applied to the entire Bureya mountain range.(39)

Aside from erupted and metamorphic rocks, the Bureya range also comprises normal Paleozoic and Mesozoic rocks.(40)

The Bureya chain moreover, bears clear traces of ancient glacial age in the shape of cars, cirques, glacial troughs and occasionally moraines. Judging from the low border of the car expansion, the ancient snow line in the Bureya Range was situated at an elevation of 1,500 to 1,600 m.(41)

The summits of the Bureya watershed have frequently a narrow even surface and are called "gol'tsy fields."(42)

E. The Lower Amur Lowland or Plain

The Lower Amur Plain or lowland extends eastward from the Bureya mountain range along the left bank of the Amur River.(43) It is a wide expanse dotted with numerous lakes(44) with an average absolute elevation of 50 m that stretches eastward to Lake Bolen-Odzhal (or Lake Bolon').(45)

Although remarkable for its level character, ridges as high as 800 m occur in this plain in places.(46)

The Lower Amur lowland or plain actually consists of first, a meadow terrace, i.e. a floodable part of the Amur valley, several km to several tens of km wide, and second, of an above meadow terrace of the same width as the meadow terrace.(47)

The Lower Amur lowland is irrigated by the Bidzhan, the Bira and the Tunguska and Amgun' rivers, all left bank tributaries of the Amur River.(48)

The numerous lakes of the Lower Amur lowland are a characteristic of these reaches of the Amur. Most of these lakes were formed by

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contemporary erosion of river waters (old river beds, flood bed lakes). Some of them, the largest, lie in ancient sediment depressions subsequently so filled up with alluvial deposits that they lost entirely traces of their original tectonic origin, and from a morphological point of view, took on the resemblance of lakes of erosion origin, and became shallow lakes with a softly sloping bottom.(49)

F. The Climate of the Amur River Basin

The Amur River basin is included in the Far Eastern climatic zone of the USSR which has a monsoon character (50), and is little known.(51)

The above type of climate is created under the influence of the Asiatic continent and the Pacific Ocean. The influence of the continent is felt mainly in the winter, when the dry and very cold continental air penetrates the Far East in the guise of a monsoon, a northwesterly and northern current of continental air moving along the eastern periphery of the Siberian anti-cyclone. As a result, winters in the Far Eastern climatic area are cold with little snow and the weather is predominantly bright. Winter precipitation accounts for only 5 to 15% of the yearly volume and the snow cover is very thin.(52)

Cold winds blowing from the continent to the seaboard during the winter greatly reduce the warming effect of the Pacific Ocean.(53)

The mountains bordering the Amur River basin, do not serve in winter as obstacles to the action of the Siberian maximum of pressure, for the vertical power of the masses of winter continental air sometimes reaches 4 km, considerably surpassing the elevation of the local mountains.(54)

The temperature of the air on the Pacific Ocean seaboard in the winter is far lower than that in points located in the same latitudes in the European part of the country.(55)

The spring in the Far East, particularly in its southern portion, is dry. This dryness is caused not merely by the small volume of precipitation during the spring, but likewise by the thin snow cover which upon melting, provides little water. Much humidity is also lost through evaporation of the snow cover. In consequence spring floods do not occur as a rule on rivers of the Soviet Far East.(56)

The influence of the Pacific Ocean on the climate of the Far East is felt mainly during the warm season of the year, particularly in the summer when the summer monsoon predominates in the area. This monsoon is characterized by southerly and south-easterly winds blowing from the sea.(57)

Summer monsoons cause river floods during the summer and these sometimes become real inundations.(58)

The winds blowing during the warm season from the sea (59) and melting ices in the Sea of Okhotsk (60) lower the air temperature in the Far East. Owing to the development of the cyclonic phenomena

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and the resulting inflow of maritime air, the summer in the Far East is cloudy and humid and fogs are frequent on the seaboard.(61)

The influence of the Pacific Ocean on the climate of the Far East covers only the seaboard area and does not reach far inland. This is due to the fact that the Dzhugdzhur, Kolyma and other mountain ridges present obstacles to the penetration of the summer monsoon far inland towards the west.(62)

The monsoon-type climate of the Far East is in evidence mostly in the Amur River basin, on the shores of the Sea of Okhotsk, in the southern half of Sakhalin, on Kamchatka and the Kurile Islands.(63)

The climate in the middle course of the Amur River is more continental than the Maritime area. In Blagoveshchensk, the average temperature in January is -24°, in July it is +21°. In Khabarovsk, the winter is warmer, but the summer is cooler and the influence of the ocean is already clearly felt. The average temperature in January in Khabarovsk is -23° and in July it is +20°. The climate of Vladivostok already shows considerable traces of the influence of the ocean. The average temperature in January is -13.5° and in July it is +20.5°. The yearly volume of precipitation in the basin of the middle reaches of the Amur is of 520 - 560 mm. On the eastern slopes of the Sikhote-Alin mountain range in the Maritime Kray, the yearly volume of precipitation rises to 700 mm and more in some places.(64)

Northern grain crops and even wheat can be grown in the lower reaches of the Amur.(65)

Owing to the cool summer and the proximity of the ocean, the forest vegetation in the mountains of the Far East does not rise high. On the Sikhote-Alin range, on the side facing the ocean north of Lat.44°N, elevations higher than 1,200 to 1,300 m are usually forestless. On the other hand, owing to the low volume of winter precipitation, there are no glaciers in the mountains of the Far East with the exception of Kamchatka.(66)

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REFERENCE NOTES

Chapter I

1. Ocherki po Gidrografii Rek SSR (Outlines of the Hydrography of USSR RIVERS) Publication of USSR Academy of Sciences, Moskva, 1953. Abbreviated further to "Ocherki Akad." p. 227.

2. Bol'shaya Sovetskaya Entsiklopediya (Great Soviet Encyclopedia), V. 2, 1950, p. 307. Abbreviated to "BSE."

3. BSE, V. 2, 1926, p. 588.

4. Ibid., 1950, p. 307.

5. Yu. A. Liverovskiy and B.P. Kolesnikov, Priroda Yuzhnoy Poloviny Dal'nego Vostoka (The Nature of the Southern Half of the Soviet Far East), Moskva, 1949, p. 108. Abbreviated to "Liver & Kol."

6. L. K. Davydov, Gidrografiya SSR (Hydrography of the USSR), Vol. II, Leningrad, 1955, p. 498. Abbreviated to "L.K.Davydov,V.II, 1955".

7. Liver & Kol., p. 108.

8. L. K. Davydov, Gidrografiya SSR (Hydrography of the USSR), V. I, 1953, p. 33. Abbreviated to "Davydov, 1953"; Ye M. Murzayev, Severo-Vostochnyy Kitay (North-Eastern China), Moskva, 1955, p. 105. Abbreviated to "Murzayev"; Ocherki Akad., p. 227; B. A. Apollov, Ucheniye o Rekakh (Course on Rivers), Moskva University Publication, 1952, p. 306. Abbreviated to "Apollov"; BSE, V. 2, 1950, p. 307.

9. Ocherki Akad., p. 227; BSE, V. 2, 1950, p. 307.

10. Ocherki Akad., p. 17.

11. BSE, V. 2, 1950, p. 307.

12. Ocherki Akad., p. 227.

13. Ibid.

14. Ibid.

15. Ibid.

16. Ibid.

17. M. S. Bodnarskiy, Slovar' Geograficheskikh Nazvaniy (Dictionary of Geographical Names), 1954, p. 295. Abbreviated to "Slovar. Geogr."

18. L.S. Berg, Priroda SSR (The Nature of the USSR), Moskva, 1955, pp. 397-8. Abbreviated to "L.S.Berg, 1955.

19. Slov. Geogr. p. 295.

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U.S.C. — 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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20. L.S. Berg, 1955, p. 398.

21. Ocherki Akad., p. 227.

22. Ibid.

23. Ibid.

24. Ibid.

25. L.S. Berg, 1955, p. 82.

26. S.V. Chefranov, Geografiya SSR (Geography of the USSR), Moskva, 1955, p. 161. Abbreviated to "Chefranov".

27. L.S. Berg, 1955, p. 83.

28. Ibid.

29. Liver & Kol., p. 82.

30. Ibid.

31. Chefranov, p. 161.

32. L.S. Berg, 1955, p. 398.

33. Slov. Geogr., p. 58.

34. Ibid.

35. Chefranov, p. 161.

36. Slov. Geogr, p. 58; L.S. Berg, 1955, p. 398.

37. Slov. Geogr., p. 58.

38. Chefranov, p. 161; L.S. Berg, 1955, p. 82; Slov Geogr, p. 58.

39. Chefranov, p. 161.

40. L.S. Berg, 1955, p. 398.

41. Ibid.

42. L.S. Berg, Geograficheskiye Zony Sovetskogo Soyuza (Geographic Zones of the Soviet Union), Moskva, 1952, V. II, p. 450. Abbreviated to "Geogr. Zony Sov. Soyuza".

43. L.S. Berg, 1955, p. 82.

44. Chefranov, p. 161.

45. L.S. Berg, 1955, p. 82.

46. Ibid., p. 83.

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47. L.S. Berg, 1955, p. 82.
48. Ibid., p. 83.
49. L.K. Davydov, V. II, 1955, p. 514.
50. S.I. Kostin, 1955, p. 367.
51. L.S. Berg, 1955, p. 399.
52. Kostin, p. 367.
53. Ibid.
54. L.S. Berg, 1955, p. 452.
55. Kostin, p. 367.
56. Ibid.
57. Ibid.
58. Ibid., p. 368,
59. Ibid.
60. L.S. Berg, 1955, p. 399.
61. Kostin, p. 368.
62. Ibid.
63. Ibid.
64. Ibid.
65. Ibid.
66. L.S. Berg, 1955, p. 452.

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DETAILED DESCRIPTION OF THE AMUR RIVER

CHAPTER II

A. The Upper Reaches of the Amur River - from the confluence of the Shilka and Argun' Rivers to Blagoveshchensk.

B

B. The Middle Reaches of the Amur River - From Blagoveshchensk to Khabarovsk

C. The Lower Reaches of the Amur River - From Khabarovsk to Nikolayevsk.

D. Lakes of the Lower Amur.

E. The Amur River Estuary and the Gulf of Amur.

a. The South Fairway
b. The North Fairway
c. The Sakhalin Fairway

F. The De Kastri Bay Area.

a. General description of the De Kastri Bay Area
b. Climate of the De Kastri Bay
c. The settlement of De Kastri
d. The Project of a Canal linking De Kastri Bay to the Amur through Lake Kizi

According to the character of its valleys and its hydrographic and navigation conditions, the Amur River is usually divided into three main sectors, the Upper Amur, extending from the confluence of the Shilka and Argun' rivers to the estuary of the Zeya river, the middle Amur, from the estuary of the Zeya River to the estuary of the Ussuri River, and the Lower Amur, from the estuary of the Ussuri River to its entrance into the Amur River estuary in the Bay of Tartary(1); or in other words from Pokrovka (Pokrovskoye or Pokrovsk) to Blagoveshchensk, from Blagoveshchensk to Khabarovsk and from Khabarovsk to Nikolayevsk.(2)

A. The Upper Reaches of the Amur River - From the confluence of the Shilka and Argun' River to Blagoveshchensk.

The upper Amur River extends from Pokrovka village at the confluence of the Shilka and Argun' rivers, to the estuary of the Zeya River (Blagoveshchensk). This sector is 901 km long.(3)

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From the confluence of the Shilka and Argun', the Amur River flows in a narrow valley(4) between the Nyukzha mountain ridge to the north and the Bol'shoy Khingan Range to the south, its swift current hemmed in by the high and rocky banks(5) covered with deciduous and coniferous trees.(6)

Beyond Pokrovka, according to an older source, on the left bank of the Amur, a perpendicular rock juts forward into the stream and is called "Byrkinskiy Utes" ("Berke" means "bold" in Tungus), because at the foot of this rock, the Amur River flows with enormous speed.(7)

Within some 12 km downstream from Pokrovka lies the Mangaleyskiy Bar, very dangerous to navigation because of the rocky bottom of the river at this spot.(8) There is also the settlement of Mangaley.(9)

Until the confluence of the Mukunda River, the right bank of the Amur consists of steep rocks coming down to the river, while the left bank is less steep. The Amur flows here in a single bed and it is only below the mouth of the Urushi (or Urusha) River that the Amur breaks up into channels with sandy islands between.(10)

Eight km from the village of Ignashino, located downstream from the confluence of the Amazar River, a left bank tributary, are located the Ignashino alkali mineral sources approached by a picturesque road, that a 1929 source mentions as "convenient".(11)

Below the settlement of Sverbeyeyvskiy (Sverbeyeyvo), 528 km from Sretensk, the Amur River, after receiving the Ol'doy River, a left bank tributary, flows in a narrow valley through the outspurs of the Bol'shoy Khingan, describing a double loop under the name of Cherpel'skiy Krivun.(12)

From the estuary of the Ol'doy River, a wide low meadow overgrown with thickets and dotted with several small lakes, stretches along the left bank of the Amur River.(13)

Further downstream, the Amur again flows in a single bed in a narrow valley.(14)

Downstream from Dzhalinda, (Reynovo), beyond the estuary of the Bol'shoy Never River, a left bank affluent of the Amur(15), the latter flows through a wide valley where the number of islands in the river bed increases.(16)

Until the confluence with the Amur River, its right bank tributary, the Amur River flows(17) in an easterly direction, between high rocky banks covered with coniferous forests and through small uninhabited valleys.(18)

Here the Nyukzha range approaches the Amur from the north and the Bol'shoy Khingan range approaches the Amur from the south.(19)

Albazin is located 615 km from Sretensk, opposite the Albazikha River, or Amuerkhe, a right bank tributary of the Amur.(20), and is also called Emur-Albachi in SSE, V. 1, 1929, p. 50.

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In the area of the village of Albazin*, the Amur valley widens, the mountains recede from the banks and in places the Amur splits into channels.(21)

Below Albazin, the river flows in a southerly direction, its valley widens and becomes more populated, forms islands and channels.(22)

From Beketovskiy poselok(23) also called Beketovo(24), the Amur River widens, islands occur more frequently the river flows eastward and then southeast. The Beketov Bar is within 6 km of the settlement and navigable when the water covering it is 4 feet deep.(25)

Beginning at Chernyayevo, linked by a railroad spur to the station of Ushumun on the Amur Railroad, the Amur River has favorable navigation conditions.(26)

Some 40 km below Chernyayevo, near the settlement of Kuznetsovo, on the steep left bank of the Amur, 4 enormous columns protrude sharply into the Amur River, forming niches. This natural colonnade is called "Kamennyye Stolby" (Stone Pillars) and rises above a dangerous area of rocky deeps.(27)

Between the settlements of Yermakovo and Anosovskiy(28), the latter also called Anosovo, located on the left bank of the Ul'min River, a small left bank affluent of the Amur, near its estuary(29), rises a steep cliff about 75 m high consisting of yellow sandstone in horizontal strata with streaks of smouldering brown coal. At night—particularly after heavy rains, fires appear on the slopes of the cliff and the area is considered sacred by the natives.(30) The smooth summit of the cliff is called Lama-Khadar (Lama Cliff) because its shape recalls the shorn head of a lama. The locality, designated by the name of Tsagoyan or Tsagayan (White Mountain(31), also "Burning Mountain" according to another source is held in veneration by the Amur tribes(32) and by the Chinese. It extends from the Lama-Khadar cliff for about 1 1/2 km and is characterised by steep slopes.(33)

Upon reaching the Tsagayan elevations, the Amur River describes a wide bend, its course turning from east to south and further on west.(34)

Further downstream, at the mouth of the Innokan River, lies the settlement of Novo-Voskresenskoye.(35)

From the estuary of the Innokan, the Amur River bends south-west, and for some 12 km flows through a wide valley and in several channels. The Amur is here about 3 1/2 km wide.(36)

*Renamed "Svobodnoye" according to BSE,v.2,1926, p.128, but it is still called Albazin in recent sources.

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Further on, the Amur River turns west, and its left bank, consisting of red sandstone, rises to a height of about 300 feet above the level of the water, forming a cape called Mys Kazakevicha (Ilikan by the natives). Seen from the south-west, the cape has the shape of a human figure of gigantic size with a helmet on its head.(37)

Below the confluence of the Belaya River a left bank tributary, as the Amur approaches the estuary of the Kumara River, the mountains recede and the Amur flows in a wide valley, breaking up into channels and forming numerous islands over grown with rich vegetation.(38)

Some 3 km upstream from the village of Kumara, on the right bank(39), near the settlement of Kol'tsovsk*(40) the right bank of the Amur River forms Korsakov Cape or "Maslyanichnaya Gora" (Oil Mountain) rising 300 feet above the water level(41) in the form of a high sheer cliff with a flat summit, also called Langoper by the natives and Dashikada by the Manchus.(42)

This mountain consists of blocks of amygdaloid melaphire projecting in regular semicircles towards the river and is rent by deep crevasses. The oil flowing from this mountain accounts for its name given it by the Cossaks. The natives also call it Vangan.(43)

At the village of Kumara, a landing stage on the left bank of the Amur River, 100 km south-west of Shimanovsk, a railroad station of the Skovorodino-Kuybyshevka Vostochnaya line(44), the Amur River Plateau approaches the Amur from the south and the Zeya - Amur plateau approaches the Amur from the north.(45)

Further, upstream from the settlement of Korsakovo, the Amur is hemmed by the Nuykzha range to the left and by the outspurs of the Il'khuri--Alin range to the right.(46)

As it approaches the settlement of Korsakovo, the Amur describes a double curve called the Korsakovskiy Krivun or Uluso-Modokskiy Krivun or petlya (bend or loop(47) This curve has the shape of the figure 8.(48)

The loop is 45 km long, but the distance between the ends is only 0.6 km.(49) The Amur, flowing in a bed 5.660 to 853.6 m wide, skirts 2 peninsulas of which the left is the site of the settlement of Korsakovo while the other, is the site of the Busse settlement The peninsulas have a circumference of 30 to 35 km and are connected with the continent by narrow strips of land 1 1/2 km and 1 km wide. Both peninsulas have an elevated wooded surface and descend to the river in a steep slope. The banks of the Amur River are here rocky and consist of grahite, syenite, porphyry and clayey slates, among which are found seams of coal and graphite.(50)

Below the settlement of Busse, the Amur turns in a south-southwest direction, flowing in a bed 640.2 to 853.6 m wide between rocky banks(51) towards the confluence of the Zeya River, its right bank tributary, and where the port of Blagoveshchensk is located.

*A 1954 source lists a village of Kol'tsovo, but located 50 km upstream from Kumara.(A.M. p.75)

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B. The Middle Reaches of the Amur River - From Blagoveshchensk to Khabarovsk

The middle sector of the Amur River extends from the estuary of the Zeya River to that of the Ussuri River(52) and is 1,033 km long according to one source(53) and 1,000 km long according to another(54) it is also considered that the middle reaches of the Amur River extend from Blagoveshchensk to Khabarovsk, situated downstream from the Ussuri estuary.(55)

The Zeya-Bureya plain starts after the confluence of the Zeya River at the left bank of the Amur River, and descends in steps to the river(56), and the current of the Amur River becomes slower.(57)

The Zeya Bureya plain forms a series of terraces - a low flood bed, a high flood bed and 3 above-flood bed terraces. The flood bed of the river is undulating, cut by ravines filled with water during the flood season.(58)

From Blagoveshchensk and Aygun, and even Nizmennoye, the width of the Amur River varies from 1 1/2 to 2 km, widening in places to 3 and 5 km. The mountains on the right bank, receding from the river 1 1/2 km a above Blagoveshchensk, extend down the Amur almost to Nizmennoye. Near this village they form a high and rocky wall, which is a spur of the Ilkhuri-Alin' ridge.(59)

The Amur River is 1.5 to 3 km wide at Blagoveshchensk and then flows on between flat banks(60), but further downstream numerous islands appear in its course.(61) An older source lists some 30 islands(62) some of them 3 to 5 km long(63) from the estuary of the Zeya River to the settlement of Nizmennoye. These islands are surrounded by numerous shoals during low water.(64)

In the lowland reaches of this sector, the Amur breaks up into numerous channels and its width reaches 10 km, as for instance at the Sychevskiye shoals.(65)

Some forty km downstream from Blagoveshchensk, the Amur flows past the town of Aygun on its right bank.(66) Another source says the town is 30 km away and listed its population at 36,000 in 1926.(67)*

* The information on Aygun (or Aygun') is a good example on the divergence of the various sources in geographical topographical matters. According to SSE,v.1, 1929, p.32 , Aygun or Sakhalin-Ula-Khoton, was founded in 1683 by the Chinese on the left bank of the Amur River, near the estuary of the Zeya River, and later transferred to the right bank. The Treaty of Aygun (May 1858) between China and Russia was concluded there. The population was 36,000 in 1929. According to a 1926 source, Aygun is 30 km downstream from Blagoveshchensk and according to a later source, the population is 7,000.

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AIR INTELLIGENCE INFORMATION REPORT

In its course to the village of Poyarkovo, the Amur flows in a northeasterly direction with islands bordering both banks.(68)

Opposite the mouth of the Gornaya River, a right bank tributary of the Amur, some 12 km above the village of Poyarkovo, there is a group of islands.(69)

The village and landing stage of Poyarkovo is located hear the estuary of the Zavitaya River, on its right bank.(70)

Beyong the confluence of the Zavitaya river a left bank tributary, some 4 km above the village of Poyarkovo the Amur River separates into 2 channels 853.6 m wide. The left channel further on splits into 2 beds thus forming an 2 1/2 km long and 1 3/4 km wide island. The island formed by the 2 main channels, 10 km long and 4 1/2 km wide, is known by the name of Poludennyy.(71)

Below the island of Poludennyy, after gathering its waters again into a single 1 3/4 km wide channel the Amur River flows east, and then south-southwest and east - southeast.(72)

Until the estuary of the Bureya River (or Bol'-Biru)(73), the banks of the Amur are successively steep or softly sloping and the islands are numerous(74) as the left bank of the Amur River borders the Zeya - Bureya lowland and the river here is wide.(75)

Below the confluence of the Bureya River, the left bank of the Amur River is covered with meadows and rises gradually, while the right bank is mountainous.(76)

At the village of Innokentiyevskaya (or Innokentiyevka), downstream from the estuary of the Bureya River, the Amur River bed is about 1 1/2 km wide.(77)

Below Innokentiyevka, the Amur receives the Arkhara River, a left bank tributary.(78)

Then, some 2 1/2 km below the estuary of the Khingan River(79) a left bank tributary(80), and the settlement of Pashkovo, the Amur River turns sharply to the south and even to the south-south west(81) and breaks through the Malyy Khingan mountain range(82) at the Kaminfyn Pass.(83)

The valley narrows and the river flows through a narrow gorge in places only 640 m wide(85)* where the speed of the current reaches 9 km per hour.(86)

The spurs of the mountains press here to the Amur which flows thus between the "shcheki" (cheeks) of the rocky mountain banks.(87)

*500 m wide according to L.S. Berg, p.82, 1955. See "Priroda SSR".

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AF FORM 112—PART II
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AIR INTELLIGENCE INFORMATION REPORT

The mountains are covered with coniferous forests. Following its south-southwest direction, the Amur reaches the Uya, its right bank tributary. Halfway of this stretch, the steep and rocky right bank contains outcrops of spar and porphyry. The left bank is wooded.(88)

At the settlement of Storozhevoy, south of Pashkovo, the mountains start to recede.

At the village of Radde, the Amur meets mountains, and describes sudden bends, sometimes between almost vertical rocky banks. The Amur is 500 to 600 m wide in this area but its depth and speed of flow are greater. In 1929 there was not a single populated point from the settlement of Radde for 100 km downstream.(90)

Beyond the village of Radde, situated on a plateau, the mountains rise again like a wall on the left bank. The Amur here flows with an extraordinary velocity and beyond the mouth of the Uya River, opposite Radde the Amur presses close to the Shakhta-Khada mountain, rising on the right bank, turns suddenly east-north-eastward and enters the Khingan pass. The Amur breaks through these mountains, making abrupt bends and sudden changes in the direction of its course. The water, striking violently against the banks, transforms them into steep and almost vertical walls. The frequent bends make it appear as if the body of water were enclosed in a stone trough with walls formed by the rocky slopes of the banks. Bare and craggy cliffs, called Siksiakhada by the natives, rise on the right. Opposite them is the mouth of the Lagar, which is an important tributary of the Amur.(91)

Prior to reaching the Lagar, the Amur meets a steep mountain spur covered with scattered stones separating the Ilachka spring from the lagar. From the mouth of the Lagar, the Amur turns abruptly to the south and keeps this direction for a distance of 11 km. Some 7 km from the mouth of the Lagar, this chain of cliffs is interrupted by a plateau about 2 to 2 1/2 km wide, bordered by mountain spurs known by the name of Khochio.(92)

After leaving the mountains, the Amur River flows in a wide plain with the aspect of a meadow steppe. The river bed breaks up into channels, forming islands the number of which increases downstream.(93)

The Amur River leaves the mountains of the Malyy Khingan Range at the village of Yekaterino-Nikol'skoye(94) located at the southernmost point of the Amur River. Below this point the river forms 2 islands 1 km long and changes its formerly general southerly and southeasterly direction for an easterly(95), widens again, and flows between low banks(96) through the wide Amur-Sungari plain until the city of Knabarovsk(97) and the banks become low, with soft inclines.(98)

Throughout its course between the estuaries of the Bureya River and the Bira or Khara River, the right bank of the Amur River is mountainous, while left borders a pasture land with meadows and luxuriant vegetation. Groves of trees are found at some distance from the river.(99)

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

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AIR INTELLIGENCE INFORMATION REPORT

At the place where the Sungari flows into the Amur River, there is a large number of islands in the river bed, formed by sediments of particles carried by both rivers.(100) These islands extend for some 12 miles with their axes almost at a right angle to the river bed.(100) This phenomenon is due to the stronger current of the Sungari, which the Chinese and Manchus consider to be the main branch of the Amur River.(102) The right channel, the Sungari, flows past the islands, carrying more alluvium, whereas the left branch, the Amur, has a swifter and longer course. The water of the Sungari is of a dirty and turbid color produced by very fine particles of clay. For a long time the clear waters of the Amur and the turbid waters of the Sungari flow parallel without mingling, until the Amur, gradually overwhelmed by the force of the turbid waters of the Sungari looses its original clearness.(103)

After receiving the Sungari River, the main stream of the Amur River flows to the northeast(104), and to Leninskoye, a landing stage on the left bank formerly called Mikhaylo-Semenovskoye(105) where it is 10 1/2 km wide.(106)

The total breadth of the Amur River, islands and numerous channels included, reaches up to 12 km in places.(107)

From Leninskoye, the main flow of the Amur River turns east and then northesst, receiving its right tributary, the Baydzhin (or Baydzin) River. On the right bank of the Baydzhin, steep cliffs forming two sloping shelves descend to the main stream of the Amur River. From the estuary of the Baydzhin River, the Amur turns gradually to the north-northeast. The right edge of the valley rises here straight from the water, in oak covered slopes of almost inaccessible vertical rocks, the first called Mangati, the latter Kenu.(108)

Steep cliffs known under the name of Korrokho or Zabelovskiye sopki(109) rise opposite the Upper Spassk settlement on the right bank of the Amur River. They are intersected by passes and little streams hurrying to join the Amur River. Further downstream, Cape Kyrma juts out into the river bed. From here the main current finds its way through an archipelago of islands.(110)

Upstream the settlement of Lower Spassk, the Amur River splits into 2 branches flowing past an island.(111) The right branch or channel receives the Ussuri River. On the left bank of the Ussuri River, at its junction with the Amur River, there is a post which in 1900 marked the extreme limit of the Chinese Empire.(112)

Khabarovsk is located on the right bank of the Amur River, downstream from the spot where the two channels of the Amur converge again into a single stream.(113)

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C. The Lower Reaches of the Amur River - From Khabarovsk to Nikolayevsk

The lower course of the Amur River begins at the confluence of the Ussuri River, its right hand tributary (114) and is 945 km long* starting from the estuary of the Ussuri River until the Tartar Strait. It flows mainly through the Lower Amur depression and is very wide in these reaches. (115)

The main tributaries of the Lower Amur are to the left, the Tunguska, Gorin (or Goryun) and Amgun' Rivers, and to the right, the Onyuy (or Anyuy or Dondon) and Khungari rivers. (116)

Some 43 km upstream from Khabarovsk, from which city the Lower Amur is also sometimes considered to start (117) downstream from the Zabelovskiye Sopki (hills) also called Khorrokho in Chinese, that rise on the Chinese, right bank of the river, the Kazakevichevkaya protoka (channel) separates from the Amur and flows alongside it to the south and then joins the estuary of the Ussuri River. (118) After this the channel, now called the Protoka Amurskaya (Amur channel) flows eastward and northward, and merges with the northern stream of the Amur somewhat above Khabarovsk. The frontier with China follows the Amur down the protoka Kazabevicheva and then goes south along the Ussuri River. (119)

The Khekhtsir mountain ridge rises south of Khabarovsk and south of the protoka Amurskaya, beyond low islands, on the right bank of the Amur River and to the east of the estuary of the Ussuri River and extends eastward, descending in places gradually to the Amur, and then slowly recedes from the banks further downstream near Khabarovsk. (120)

Downstream from the Goryun River estuary, there starts a wide and low flood bed with numerous lakes and the river bed, channels included, sometimes reaches 50 km in width. An above-flood-bed meadow terrace as wide as the flood bed rises above the latter and the river itself is up to 2 km wide. (121) As the area is marshy, an older source mentions that inhabitants chooses higher spots for their dwellings.(122)

As it approaches Khabarovsk, after merging with the Ussuri River, the Amur is over 3 km wide, 10 km if the islands are included. (123) A recent source, probably considering the main channel only, states that at the estuary of the Ussuri River, the Amur is 1 km wide. (124)

A wide valley covered with tall grasses extends between the Amur and the ridges (125) of the Khektsir. (126)

Downstream from Khabarovsk, below the railroad station of Pokrovka, located on the left bank of the Amur River, opposite Khabarovsk, across the river (127), the Amur River receives the Tunguska River, a left bank tributary, formed by the merging of the Kur (or Kura) and the Urmi rivers. (128)

*Other sources say the Lower Amur is 950 km long. (BSE v.2. 1950, p.307 and Ocherki Akad. p.221)

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A wide valley covered with tall grasses extends between the Amur and the ridges(125) of the Khekhtsir.(126)

Downstream from Khabarovsk, below the railroad station of Pokrovka, located on the left bank of the Amur River, opposite Khabarovsk, across the river(127), the Amur River receives the Tunguska River, a left bank tributary, formed by the merging of the Kur (or Kura) and the Urmi rivers.(128)

The village of Voronezhskoye, on the right rocky bank of the Amur River, spreads out within 19 to 20 km from Khabarovsk and is divided into Verkhne-Voronezhskoye, Sredne-Voronezhskoye and Nizhne-Voronezhskoye.(129)

The village of Osipovka is located 8 km from Khabarovsk on the road to Voronezhskoye.(130) Another, 1928 source mentions the Osipovskiy zation (inlet) situated 13 km downstream from Khabarovsk and serving as occasional wintering place for ships.(131)

In 1929, the population of Voronezhskoye consisted of 325 souls. The rocks of the place called "Voronezhskiye Utesy" are very picturesque, but their approaches are difficult and even dangerous owing to the swift current of the Amur River at this spot.(132)

Below khabarovsk for some 30 miles until the village of Vyatskoye, located on its right bank(133), the Amur River is 3 miles wide(134) and widens to 5 miles in places.(135) There are numerous low flat islands covered with an extraordinary thick growth of small willows.(136) about 6.1m high(137) which is a distinguishing feature of this section of the river. The hills recede from 20 to 30 miles inland, and the river flows through a flat plain. The banks of the river are 1.5 m to 1.8 m high, covered with long coarse grass, several feet in height , or shelving, with dense masses of small willows.(138)

The village of Yelabuga, located on the right bank of the Amur River, 90 km downstream from Khabarovsk, had 500 souls in 1929 and was then divided into two areas, the Russian and the Tartar. It included at that time a rayon cooperative, a credit association, a seven year school, a postal and telegraph office and a permanent steamer stopping place.(139)

The trip downstream from Khabarovsk to Yelabuga took in 1928, 20 hours by boat and the trip back took 3 or 4 days.(140)

The village of Sarapul' or Sarapul'skoye was in 1929 located 12 km from Yelabuga near picturesque shoreline cliffs consisting of basalt rock at the base and mud sediments at the top and into which the water had eroded deep ravines.(141)

Some 160 km downstream from Khabarovsk, the Amur receives a right bank tributary, the Anyuy River (or Onyuy or Dondon), a swift and deep stream, flowing from the Sikhote - Alin mountain range. Troitskoye, one of the largest settlements on the Amur River, is located on the right bank of the Amur, downstream from the estuary of the Anyuy River.(142)

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The village of Malmyzh, upstream from the village of Voznesenskoye, on the right bank of the Amur River, is located at the spot where the mountainous right bank of the Amur falls in sheer cliffs to the water.(143)

Opposite Malmyzh, on the left bank side of the river, lies Lake Bolen - Odzhal, also called Bolon', the largest lake in the lower reaches of the Amur River.(144)

Lake Bolen - Odzhal is connected to the Amur River by the 5-6 km long Bolenskaya protoka (channel).(145)

The village of Voznesenskoye is located on the right bank of the Amur, beyond the estuary of the Khungari River, a right bank tributary of the Amur. Further north, beyond numerous islands, is the city of Komsomol'sk, located on the left bank of the Amur River(146), 318 miles upstream from Nikolayevsk.(147)

Downstream from Komsomol'sk, for some 200 km, the Amur River flows in a narrow valley in a single bed.(148)

Near the village of Verkhne-Tambovskoye, located on the right bank of the Amur(149), 246 miles downstream from Khabarovsk(150), about 120 miles upstream from Sofiyskoye, the hills of the northwestern bank of the Amur rise to elevations of 91.4 m to 152.4 m and the forest-clad peaks of the Sikhote-Alin' Range rise to elevations of 762.0 m to 914.4 m at a distance of 25 to 30 miles to the north-eastward.(151) The village is located somewhat midway between Komsomol'sk and the estuary of the Goryun (or Gorin) River on the right bank.(152)

Downstream the estuary of the Goryun River, lies the village of Sredne-Tambovskoye, on the left bank.(153)

Beyond the village of Nizhne-Tambovskoye, on the right bank, there rises on the left bank a hill topped by a high rock which can be seen from afar.(154)

The village of Kiselevka, is located somewhat upstream from Sofiyskoye, beyond an eastward bend of the Amur River and on its left bank. Gold mines were reported to operate there in 1928.(155) Further downstream, on the right bank, is the village of Tsimmermanovka.(156)

Downstream from the village of Tsimmermanovka, the mountains recede, the river flows through a broad lowland, in the eastern and northern parts of which are located the lakes Kizi, Kodi (or Kadi) and Udyl'.(157)

Sofiyskoye or Sofiysk, is located some 15 miles upstream from Mariinskoye or Mariinsk, village on the right bank of the Amur River.(158)

Above Sofiyskoye, the river is from 1 to 2 1/2 miles wide, the high hills close inland on either side, those on the right bank reaching 914.4 m in height, being only a few miles away. The forest consists mainly of birch, both silver and black.(159)

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At the village of Sofiyskoye, 628 km from Khabarovsk, the Amur River is 2.5 km wide and deep enough for the passage of seagoing vessels.(160)

Eight km downstream from Sofiyskoye, the Mariinskaya protoka (channel) flows off the Amur to the right. This channel is deep enough for river vessels and settlements concentrate mainly along its banks. Autumn storms are less violent along this channel than along the Amur proper and its route is shorter than that of the western channel, or "Staryy (Old) Amur", and a 1929 source reports it is favored by river [redacted] vessels.(161)

The Amur River in this area and for about 30 miles downstream from Mariinskoye(162) is thus divided into 2 well defined channels by a chain of low flat islands, Mariinskaya protoka, the eastern of the channels being the one used for navigation. It has a depth of 3.7 m dredged through a "perekat" or shoal, off Ozero Kizi(163) and situated just upstream from Mariinskoye.(164)

Another source reports two shoals in the Mariinskaya protoka or channel, the first being 1.1 km long and situated at the 24th km, and the second lying opposite the entrance to Lake Kizi and being 14.4 m long.(165)

Beyond Lake Kodi, east of the Amur, the branches of the Amur join again at the settlement of Savinsk on the right bank although islands dot the river. Bogorodskoye village is also located on the right bank, further downstream.(166)

The settlement of Tebakh is situated on the southern bank of the Amur River, some 140 miles (sic) below Sofiyskoye and Mariinskoye and some 30 miles upstream from Nikolayevskoye. Abreast this settlement the Amur River describes a sharp turn eastward after having flowed in a general northerly direction from Sofiyskoye and Mariinskoye.(167)

Gavan' (Harbor) Mago, is a harbor with the settlement of Mago situated nearby, and is located at the eastern entrance of the Pal'vo Channel, about 22 miles upstream from Nikolayevsk and on the left bank of the Amur.(168)

Pal'vo channel used to be the winter anchorage for Russian vessels of war, and is now used for the same purpose by the Amur estuary flotilla.(169) Pal'vo channel, particularly its western part, abreast the settlement of Pal'vo, is a good wintering place, because here the ice melts gradually without causing any damage to hulls of ships.(170)

Pal'vo Channel which is 25 miles long and from 109.7 m to 137.2 m wide, has depths of from 5.5 m to 11.0 m and connects Lake Orel and Lake Chlya with the Amur River, passing close under the steep cliffy northern shore of the Amur River.(171)

Gavan' Mago can accomodate 6 large vessels and occasionally ocean going steamers call here for a load of timber.(172) There is a pier about 91.4 m long with depths 4.6 m alongside at low water. Mago is reported to be unhealthy.(173)

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The section of the river between Gavan' Mago and Nikolayevsk is marked by 7 pairs of range beacons indicating the fairway.(174)

D. Lakes of the Lower Amur

The main lakes in the Lower Amur are lakes Bolen-Odzhal (or Bolon') Evoron, Kizi, Udyl', Orel', Chlya and Chukchagirskoye.(175)

Lake Bolen-Odzhal, located on the left bank of the Amur River(176) is the largest lake in the Lower Amur basin. It is about 70 km long and 20 km wide.(177) Its surface has an area of 1,140 sq km.(178) The maximum depths are 2.5 m.(179)

Lake Bolen-Odzhal has numerous sandbanks, especially in the shoreline areas. The northern bank is mountainous and covered with forests, the southern bank is low and flooded for many kilometers during high water.(180)

The Lake is linked by channels with the Amur River, the largest being 8 km long and 0.5 km wide.(181)

Numerous sandbanks lie at the estuary of the Urkan River on the Lake which is turbulent and where boating far offshore is considered risky.(182)

Lake Evoron is located on the left bank of the Amur River. The area of its superficy is 590 sq km, the maximum depth is 3.0 m. The lake is distinguished by considerable variations in level reaching a range of 3 m. The lake receives a series of streams the major of which is the Evur River. The Evoron River that empties into the Goryun River flows from the Lake.(183)

Lake Kizi is situated to the right of Mariinskaya protoka to which it is connected by a series of branches, but during the shallow season, communication with the Lake is possible only through the main channel, called "Borozda".(184)

Lake Kizi is divided into 3 parts: Ayskiy Zaliv (Bay), Lake Bol'shoye Kizi and Lake Maloye Kizi, sometimes considered separately from Bol'shoye Kizi so that they are called in the plural.

Ayskiy Zaliv is a large expanse of water, the most difficult to navigate. Sufficient depths occur only within the narrow strip of the "Borozda" which is extremely difficult to find without proper navigation guides. The bottom of the bay consists of a 2 m deep layer of mud, and is almost completely overgrown with water plants.(185)

Bol'shoye Kizi starts between Cape Levanovyy and Cape Tolstyy. This is the narrowest place in the lake, being 2.42 km wide. The lake is 22 km long, and 8 1/2 km wide. Its superficy is 117 sq km during low water. The Lake is navigable at any time. The shores are indented with bays that serve as good shelters during sudden storms.

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The slopes of the mountains surrounding the lake are covered with thick, mostly coniferous forests. The bottom of the lake consists mainly of mud, of an average thickness of 0.7 m.(on a layer of clay).(186) According to a later source, the superficy of the lake changes with the variations in level (from 100 to 350 sq km). The depths do not exceed 3 m during highest water and the changes in level reflect the changes in level on the Amur River. The highest levels occur in the end of summer, in July and August.(187)

One of the serious obstacles to river navigation and raft towing on Lake Kizi is due to storms. During 6 navigations seasons, the Mariinskaya station noted that out of 2,865 observations, in 85 cases winds reached speed of 10 to 20 km and in 4 cases they attained speeds of over 20 km.(188)

Lake Maloye Kizi is connected with Lake Bol'shoye Kizi by a narrow strait, about 4 km long. The shores are forest covered. This part of the lake almost dries up during exceptionally shallow periods, its bottom is almost liquid mud. Navigation is impossible there in low water.(189)

E. The Amur River Estuary and the Gulf of Amur

The Amur River enters the Strait of Tartary between Mys (Cape) Tebakh* (on the left or north shore) and Mys (Cape) Pronge**(on the right or south shore)(190), forming a very wide Bay or Estuary(191) 45 km long(192) and up to 15 km wide(193) and is part of the Amurskiy Zaliv (Gulf of Amur) the northern limit of which is the parallel of Mys Tamlevo. According to the definition given by the Russians, the Gulf of Amur extends southward for nearly 68 1/2 miles to the parallel of Mys Lazareva (on the mainland) and is included between the mainland to the west and Sakhalin Island to the east, reaching its maximum width of approximately 25 miles abreast to the mouth of the Amur River.(194)

*Mys Tabakh (or Tebakh) is a fairly conspicuous cape projecting in an easterly direction from the mainland about 3 miles south-westward of Mys Ozerpakh and is the northern entrance point of the mouth of the Amur River. The intervening coast is backed by the slopes of coastal elevations, which raising to a height of nearly 400 feet run parallel to the coast close inland. A settlement, the population of which is about 500, and a large fishery, are situated on Mys Tebakh. (US 122B, p. 46)

**Mys Pronge, the southern entrance point of the Amur River, is the northeastern extremity of a narrow peninsula. In the vicinity of the point is low-lying sandy ground 1.8 m high. On this point are a signal mast and a telephone station which is connected to Mys Dzhaore and Nikolayevsk. (BNG, p. 458)

About 1 1/2 miles northwest of Mys Pronge is the entrance to the narrow channel between the coastal reef and the extensive drying flat which lies in the entrance of the Amur River.(BNG. p.460)

Southwestward and northeastward of this drying flat are navigable channels, about 3 and 5 cables wide, respectively.(BNG.p.461)

It should be recalled that one ordinary cable's length is equivalent, according to the British, to 608 ft and according to the United States Navy to 607.61 ft. (See Webster's International Dictionary, Second Edition, Unabridged. p. 1524).

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Topographically the shores of the lower Amur River and its Bay are as follows: Both banks of the river are low, especially the right bank. They are bordered by forest covered mountain ridges, which except for occasional elevations, are up to 329 m high. These ridges go down in places to the river in the form of rocky cliffs, and in places from depressions situated at small distances from the shores of the Amur.(195)

Mountain terraces resulting from frost solifluction processes are developed on the elevations rising in the estuary area of the Amur River On the Praul' or Lysaya mountain 583 m high, the terraces are well expressed at elevations of 540, 460 and 360 m.(196)

The western shore of the Amur Gulf formed by the mainland, is generally high and consists of mountains ranging in height from 1,000 to 3,000 feet and thickly covered with forests.(197) The eastern shore of the Gulf is formed by the northern part of the west coast of Sakhalin, and is low, sandy and fronted by wide shallow sandbanks.(198)

The navigable fairways lie on the average from 6 to 7 miles off-shore.(199)

Neither shore nor gulf has a single bay affording any shelter for even light draft vessels.(200)

The Amur River does not have a typical delta, but the sediments it carries settles in the estuary in such volume that the greater part of the latter is one single sand and mud shoal of insignificant depth and cut through by a whole system of narrow, but relatively deep fairways.(201)

According to a USSR source, beyond Nikolayevsk-na-Amure, the Amur River flows in a single bed for 26.5 km and then breaks up into channels forming 3 fairways)202), the southern eastern and northern fairways that flow into the Gulf of Amur.(203)

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AF FORM 112—PART II
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1. The South Fairway (Yuzhnyy Farvater)

The Yuzhnyy Farvater (South Fairway) constitutes the southern approach to the Amur River.(204)

Its southern entrance is a channel 3 cables wide between Banka Klykova* and the bank extending from the northern side of Mys Lazareva(205) and is close northeastward of Mys Lazareva. This channel leads between the banks extending from the western side of the Amur River estuary and the shoals which encumber it and is navigable for small vessels with local pilots.(206)

Yuzhnyy Farvater trends along the western shore of the Amur Bay(207) for about 40 miles(208) at a short distance offshore leaving to the west Chakmut Island and Khagemif Island, Mys Dzhaore and Mys Khussi, Uyuzyut (or Uyuzut) Island and Mys Pronge. Having described a bend at right angle around Mys Pronge, the southern fairway turns northwestward, towards Mys Naleo, from where it passes to Mys Chkhil', situated on the left bank of the Amur River, and trends along this bank to Nikolayevsk, which is situated on this fairway about 73 miles (sic) from Mys Lazarev.(209)

There is in this channel a controlling depth of 11 to 12 feet at low water over the bar in the vicinity of Mys Khussi. According to a relatively recent source, it has been reported that dredging operations are in progress to increase the depth over this bar to 14 feet.(210) A much earlier source (1928) reported the depth in the southern fairway to be 3.66 m.(211)

The shoalest parts of this channel are abreast Mys Khussi, about 32 miles north-northwestward of Mys Lazareva, and on the track northward of Ostrovok (small island) Uyzyut** about 5 miles north-northwestward of Mys Khussi (where there are ordinarily least depths of 3.7 m on the leading lines, but there may be a greater or lesser depth than this, depending on the outflow of the Amur River, and on the direction of the wind.(212)

The width of the Southern Fairway varies from 1 cable to 2 miles (sic). The depth on this fairway from Cape Lazarev to the parallel of Chome Island varies from 21.336 m to 12.802 m. From the islands of Chome and Pronge the depths gradually decrease and the fairway forms a bar, the minimum depth on which at Mys Khussi is 3.65 m. Further beyond this bar the depth increases to 12.802 m but on the pass from Cape Nale to Chkhil', the depth again decreases to 5.18 m.and then until the city of Nikolayevsk depths are more or less considerable, reaching 51.206 m abreast of Mys Vasse.(213)

*Banka Klykova, about 4 1/2 cables north-eastward of Ostrov Ogbi has a depth of less than 1.8 m. The channel between this bank and the bank extending from the northern side of Mys Lazareva is 3 cables wide (sic) and is the southern entrance to Yuzhnyy Farvater. (BNG, p. 459)

** Ostrovok (small island) Uyuzyut, known also as Berezovyy, lies on the coastal bank, about 7 cables north-northeastward of Mys Lallo; it is [illegible].2 m high, and covered with birch trees (BNG, p.458) that probably [illegible] given it its second name.

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Small vessels can anchor northwestward of Ostrov Uyuzyut Island abreast Pronge village, in depths of from 3 to 4 m.(214)

Tuzhnyy Farvater is marked by buoys, which are removed in winter and relaid early the following year. In consequence of changes in the channel, the buoys vary from year to year in number, description and position.(215)

The eastern fairway, starting abreast of Cape Tabakh, northern entrance point to the Amur River, trends at first to the south and 2.1 miles (sic) before reaching Mys Pronge, turns sharply to the east. For 4 miles from the point where it turns, depths vary from 12.73 to 10.6 m after which the eastern fairway splits into separate channels terminating by shallow banks at its junction with the Sakhalin fairway.(216)

2. The North Fairway (or Nevel'skogo Fairway)

The north fairway (Severnyy Farvater) also called Farvater Nevel'skogo leading from the Amur to the Sea of Okhotsk, follows the left bank of the river to Mys Tabakh, from whence its narrow sinuous bed, 6.4 m to 12.8 m deep and muddy bottom, turns to the north passes by Mys Ozerpakh and Mys Petakh and approaches Mys Puir.(217) Farvater Nevel'skogo is about 40 miles long.(218)

South of the parallel of Mys Puir, the north fairway branches out into two channels, of which the eastern situated 4.267 km along the parallel from the northern end of Mys Puir, is 256 m wide and 3.96 m to 8.53 m deep, while the western channel, closer to Mys Puir along the parallel of this Cape, at a distance from it of about 2.13 km, has a local bar 3.96 m to 5.18 m deep. The depth of the fairway itself varies from 6.4 to 14.93 m with a minimum width of 3/4 miles abreast of Mys Ozerpakh and Mys Petakh.(219)

Within 3 miles to the northeast of Mys Puir, both channels merge into a common fairway 6.09 m - 15 m deep.(220)

This channel, taking a northwestern direction, runs along the parallel of Langr Island and at its entrance here into the north roadstead, forms a bar called the Severnyy Bar or North Bar*, the minimum depth of which is 4.26 m at low water(221) and which is located 3 miles northward of the southeastern end of Ostrov Baydukov.(222)

The north fairway must be used by vessels, drawing more than 4 m, and, in 1943, was used by vessels with a draft of 5.8 m - 6.1 m.(223)

*The North Bar, which changes its position and depth, had in 1938 a minimum depth of 10 feet at low water in a position about 3 miles north-northeastward of the southeastern extremity of Ostrov Baydukov. This bar had maximum depths of 16 feet at high water springs in 1943. Strong north-easterly winds considerably increase, and southwesterly winds decrease the height of the water above the bar.(US 122B, p.47)

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According to an earlier source, the depth of the northern fairway is 457.7 cm during the minimum high tide. During the maximum high tide, the depths of the north fairway is 579.6 cm (Artamonov, p.277). The same author states in more general terms that the depth of the north fairway is 396.5 cm(224) probably meaning the average depth.

Farvater Nevel'skogo, the northern approach to the Amur River has no landmarks indicating the fairway. Navigation is from buoy to buoy, and the swift tidal currents render the course difficult. When steering between two consecutive buoys, vessels should exercise particular care to remain at all times in line with the buoy ahead and the buoy astern, so as to prevent being set out of the fairway, which possessing considerable depths, is very narrow with steep sides.(225)

All buoys are removed before winter and remoored the following spring. The total number of buoys and their positions are altered as necessary from year to year to meet the changes in the fairway(226)

The north channel, extends into the mouth of the Amur River, to a position abreast of Mys Malyy Chkhil', the junction of this fairway with Yuzhnyy Farvater (South Fairway or Channel), the southern approach to the Amur River.(227)

From the junction of Farvater Nevel'skogo or North Channel and the Farvater Yuzhnyy (South Fairway) also called Western, the main fairway passing upstream the Amur River estuary consists of 3 reaches passing northeastward and northward of Meo Shoal (Banka Meo) and extending for some 12 miles to the roadstead of Nikolayevsk.(228)

Meo Shoal, a very extensive shoal, dry in parts and overgrown with patches of willow, lies with its southeastern extremity approximately 1 1/4 miles south-southeastward of Mys Chnyrrakh(229), and about 2 1/2 miles west-northwestward of Mys Vasse.(230) This shoal extends in a general northwesterly direction for about 6 miles and occupies almost the entire width of this section of the Amur River, leaving a comparatively narrow navigable channel on either side.(231) According to another source vessels can pass either southwestward or northeastward of Meo Shoal.(232)

The main channel passes northward of Meo Shoal, but the channel between it and the southwestern shore of the river is 4-11.9 m deep and its southeastern end is nearly blocked by the bank extending from the southern shore.(233)

Mys Meo, a fairly elevated rocky cape, covered with a forest, is located about 2 miles northwestward of the settlement of Kukla(234), and 4 1/4 miles northwest of the mouth of the Reka Dyuka(235), a river which discharges about 4 miles west-northwestward of Mys Vasse. The settlement of Dyuka and a fishing station are situated at the mouth of the rivulet.(236) A bank with depths of 0.3 m to 1.2 m over it, extends about 1 1/2 miles offshore between Mys Vasse and Reka Dyuka.(237)

From Mys Meo, the coast rising sharply, to elevations of more than 304.8 m, trends in a west-northwesterly direction(238), for about 2 1/2 miles and faces the roadstead of Nikolayevsk.(240)

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Mys Kuegda (also called Koshka) is a cape extending in a narrow tongue of land on the southern side of the town of Nikolayevsk.(241) Kuegda is the eastern entrance point to the harbor of Nikolayevsk and lies 6 1/2 miles west-northwestward of Mys Chnyrrakh.(242)

A small harbor is located on the north-western side of Mys Kuegda and there is a lifeguard station on the cape.(243)

3. The Eastern or Sakhalin Fairway

The East Channel, or Sakhalinskiy Farvater together with the fairway through the Strait of Tartary, is the main navigable channel connecting the Gulf of Tartary with the Okhotsk Sea and with Farvater Nevel'skogo (Nevel'skogo Fairway, also called North Channel or Fairway), the northern approach to the Amur River.(244)

The Sakhalinskiy Farvater extends from the southern entrance of Yuzhnyy Farvater(245) from Ostrov Khagemif(246) northward between shallow and extensive sandbanks(247) along the coast of Sakhalin 5-6 miles from Mys Khalezova, and about 5 miles north of this Cape, approaches close to the shore of Sakhalin. Then 5 miles further northward, abreast the village of Petumbovo the fairway turns sharply northwest, and passing through the northern roadstead of the Bay of Amur, enters the Sea of Okhotsk at Lat.50°30' N.(248)

Sakhalinskiy Farvater trends for its greater part far off either shore of the Gulf and approaches the western coast of Sakhalin Island only in the vicinity of the Valyuyevo Range Lights. It has been reported that this channel is constantly dredged to accomodate vessels with a draft of 20 feet.* (249)

This fairway is about 87 miles long and its direction is constantly changing.(250)

*The Sakhalin Fairway, according to a 1926 USSR source, is wider and deeper than the other fairways. It is only in one spot that depths at lowest water are of 4.26 m and 5.48 m to 5.79 m during high tide. On the remaining extent of the fairway, depths are no less than 6.4 m. (NAP, p. 12).

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

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F. The De Kastri Bay Area

1. General Description of the De Kastri Bay Area

Between Cape Mys Sushcheva and Cape Mys Kastri, nearly 14 miles southwestward, the shore recedes in a northwesterly direction and forms a large open bay known as Taba Bay. The prevailing depths in the northern part of the Bay are from 6 to 7 fathoms, and those in the southern part of the Bay are from 10 to 11 fathoms.(251)

The high shore of the bay affords protection from winds blowing between northwest and northeast, through north, but northeasterly winds of long duration cause a heavy swell.(252)

Gora Vorob'yeva, a 941 ft hill rises near the head of the bay, in a position 8 miles west-southwestward of Cape Mys Sushcheva and close inshore.(253)

De Kastri Bay is a bay indenting the coast for more than 4 miles between Capes Mys Kastri and Mys Kloster Kamp, about 4 1/4 miles southward.(254)

Mys Kastri (Cape Kastri) is the northern entrance point of de Kastri Bay and is fringed by submerged rocks extending 300 yards seaward.(255)

Lofty mountains bordering the bay slope down steeply to the cliffy shores of the bay, that are subject to recurrent landslides, which form coastal shoals usually uncovered at low water and extending for considerable distances off shore in places.(256) Yet a 1929 source states there is good anchorage in the bay.(257)

Several islands surrounded by reefs lie between the extremity of Poluostrov Klykova, a small peninsula located 2 1/2 miles westsouthwestward of Capes Mys Kastri, and Mys Yevdokimova, about a mile westward of Cape Mys Kloster Kamp.(258) These islands separate the outer half of the bay from the inner half. The outer half of De Kastri Bay has prevailing depths of 24 to 60 feet, is exposed to the sea and to all winds blowing from the northeast, through east, to southeast.(259)

The inner part of De Kastri Bay is partly sheltered and has prevailing depths of 18 to 30 feet, rock covered with a thin layer of mud.(260)

Twenty five km away, beyond a small pass, lies Lake Kizi which is linked to the Amur River. Through this route, a 1929 source mentions freight being transported to the Amur River from vessels that arrive belatedly in the autumn. In 1929 it was planned to build a railroad linking De Kastri Bay to Lake Kizi(261) and as another alternative a canal, but nothing came of those plans at that time.(262)

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APPROVED 1 JUNE 1948

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2. Climate of De Kastri Bay

The coldest month in de Kastri Bay is January and the warmest August. During the winter northwesterly winds usually prevail, creating a dry atmosphere and there is little precipitation.(263)

From November to March the northwesterly winds have a mean force of from 4 to 5, blowing hardest in December and January.(264)

At the end of April the winds become variable, and southerly winds are then more frequent.(265)

Precipitation is considerable during the summer, but seldom exceeds 4 inches in any one month and the total yearly precipitation is considerable during the summer, but seldom exceeds 4 inches in any one month and the total yearly precipitation is about 18 inches, June being the rainiest month.(266)

During the summer, southerly winds prevail, with almost incessant dense fogs, causing a good deal of humidity. August is the period when the fogs are densest in the straits Proliv Nevel'skogo, (Nevel'skoy Channel or North Fairway) but it is usually clear then within the entrance to de Kastri Bay. Under these conditions vessels can approach to within a few miles of the coast until the lower part of the land becomes visible, when the entrance to the bay can be identified. It should be noted that the upper part of Cape Mys Kloster Kamp lighthouse is visible under these conditions, as the fog envelops only its lower portion.(267)

Navigation is prohibited to merchant vessels in de Kastri Bay westward of a line extending from Cape Mys Kastri in a 179° direction to the eastern extremity of Cape Mys Kloster Kamp.(268)

The natural navigation conditions of the lower Amur, the Amur estuary and the De Kastri Bay are in favor of the latter. According to a 1929 source:

At Nikolayevsk the navigation period lasts 163 days,

De Kastri	193 "
Lake Kizi	148 "
Amur estuary	135 "

The relatively favorable (from the point of view of depth) northern fairway of the Amur estuary is not favorable from the point of view of ice conditions, for floating ice occurs there sometimes even in July and August.(269)

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Ice Conditions

Ice begins to form in de Kastri Bay early in November, and the bay is completely frozen by the middle of December. The ice begins to break up early in April, and usually the bay is entirely free of ice around the 21st of May; occasionally, however, the bay is free of ice by the end of March. The ice here attains a maximum thickness of 3 to 4 feet.(270)

The positions of the buoys in de Kastri Bay are not to be relied upon.(271)

3. The settlement of De Kastri (De Castries - Aleksandrovskiy)

The settlement of De Kastri (Aleksandrovskiy) which has a population of about 500, was formerly a military station.(272) It is reported to be now a military post and is situated on the northern shore of Somon, Bay and a short distance northwestward of Cape Mys Spaseniya. The pipe line carrying oil to Komsomol'sk on the Amur from Port Moskal'vo on Sakhalin Island is reported to pass through De Kastri.(273)

The Nelli River, which never freezes, and is remarkable for its swift current and clear water, flows through the central part of the settlement (279) and discharges at the head of a small indentation immediately westward of Mys Spaseniya. A small landing stage marks the mouth of the Nelli River.(275)

It was reported that the pier at De Kastri is 243.8 m long with depths of 6.5 m at its outer end, and it is approached through a dredged channel.(276)

Provisions are reported to be unobtainable.(277) A fresh water pipe line is laid on the pier, but fresh water can also be obtained by boats from the Somon River(278) and from the mouth of Tigil' River, which discharges at the head of Tigil' Bay.(279)

A wooden pier, reported to be 700 feet long and 30 feet wide, extends in a southeasterly direction from the southeastern extremity of Klykova peninsula.(280)

There is a post office, connected to the general telegraph system, at De Kastri.(281)

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4. The Project of a Canal linking De Kastri Bay to the Amur through Lake Kizi.

De Kastri Bay is located some 25 km east of Lake Kizi, lying east of the Amur River. The comparatively favorable conditions of navigation and anchorage in the Bay, the longer navigation season (193 days as against 163 days in Nikolayevsk) have caused for many years the elaboration and discussion of plans to build a canal or railroad linking the lower reaches of the Amur and De Kastri Bay.(282)

In 1928, Artamonov, a student of the Amur area quoted an even earlier, 1924 issue of the periodical "Ekonomicheskaya Zhizn' Dal'nego Vostoka" in which another specialist stated his opinion that the then planned canal linking De Kastri Bay and Lake Kizi would be 12 km long, comprise 12 locks and cost (in 1924 prices) 10,000,000 rubles. Artamonov himself favored this project because he considered the likewise planned construction of a 30 km railroad less advantageous as it would require transshipment.(283)

According to Artamonov, construction of the planned canal would lengthen the duration of the navigation season on the Amur River by 25%.(284) (See map of projected canal: Fig. No.1) but nothing seems to have been actually done since.

Two years before Artamonov mentioned it in 1926, Valyakhin wrote in his book on the port of Nikolayevsk of which he was chief at that time, that "surveys have destroyed the illusion concerning the realization of such a canal (De Kastri Bay-Amur River through Lake Kizi) having shown that it would cost many millions of rubles while construction of a road or railroad would necessitate two transshipments and the haul of freight by land."(285)

But the problem was again discussed in the periodical "Economichskaya Zhizn Dal'nego Vostoka" in 1929.(286)

Although it was reported in 1945 that a canal had been constructed from the northwestern end of Zaliv de Kastri through Lake Kizi and was reportedly 600 feet wide and from 19 to 20 feet deep with a final projected depth of 33 feet, subsequent information seems to contradict this report.(287)

On 12 November 1956, "Pravda" newspaper published an article concerning various recent projects of modification of the navigation route on the Lower Amur. Among the projects was that of a canal linking the lower course of the Amur River to the Strait of Tartary(288) and which would follow the route to Mariinskoye village (300 km downstream from Komsomol'sk) - Ozero Bol'shoe and Maloye Kizi - Tabo (or Taba) Bay in the Strait of Tartary. The projected canal would be 14 to 16 km long. The necessary depths in the Canal and on the Amur would be created by building a high dam near Bogorodskoye village on the Amur. Realization of this project of "deep entrance" would permit seagoing vessels to pass from the Strait of Tartary to Komsomol'sk on the Amur, without entering the shallow Amur Gulf and the estuary of the Amur River.(289)

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APPROVED 1 JUNE 1948

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Another project would connect the Amur River through the Ussuri, Sungacha and Lake Khanka with the Sea of Japan in the Vladivostok area. Transformation of Vladivostok into a river port of the Amur River will permit to shift to river transport part of the freight now shipped by rail.(290)

A project presented by the scientists of the Peoples Republic of China calls for the construction of a canal linking the Sungari and Lyaokhe Rivers. The most important waterways in North-Western China would create a single waterway through the economically important regions of China and would link the Amur River with the Yellow Sea (Liaotung Bay).(291)

Another source seems to imply that the De Kastri Kizi canal has not been built, for in October 1956, an article published in P: Zheleznodorozhnyy Transport (Railroad Transport No. 10 Oct. 1956, p.48)(292), among other plans for the future development of Soviet railroads, also states that "connection of Sakhalin and the mainland by railroad will be of great significance".

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AIR INTELLIGENCE INFORMATION REPORT

REFERENCE NOTES
Chapter II

1. Sibirskaya Sovetskaya Entsiklopediya, (Siberian Soviet Encyclopeadia), V.1, 1929, p.96. Abbreviated further to "SSE". Also, Ocherki Akad. p.227; also I. F. Popkov: Obshchava Lotsiya Vnutrennikh Vodnvkh Putey (General Navigation Guide to Inland Waterways), Moskva, 1955, 332p. p.306. Abbreviated further to "Popkov"; also BSE,v.2, 1926, p.558; also South and East Coasts of Korea, East Coast of Siberia and Sea of Okhotsk Pilot, London, 1952, 666p. Abbreviated further to "BNG" (Brit. Navig. Guide). p.463.
2. BNG, p.463
3. BSE, V.2, 1926, p.558; and Popkov, 1955,p.306
4. L. K. Davydov, V.II. 1955, p.498
5. Popkov, 1955, p.306
6. BSE, V.2, 1926, p.558
7. Putevoditel' po velikoy sibirskoy magistrali (Guide to the Great trans-Siberian Railroad). 1903-4. Abbreviated to "Putevoditel'". p.284.
8. Guide to the Great Siberian Railway St. Petersburg, 1900. Abbreviated to "Guide to trans-Sib." p.404.
9. Atlas Mira (World Atlas), 1954. map 75.
10. L. K. Davydov, V.II. 1955, p.498
11. Sputnik Turista po Dal'nemu Vostoku (Companion of the Turist through the Far East) Khabarovsk, 1929, Abbreviated further to "Turist". p.85
12. Turist, p.85
13. L. K. Davydov, V.II, 1955,p.498
14. Ibid.p.499.
15. Atlas Mira, map 75.
16. Guide to trans-Sib.p.405
17. BSE,V.2, 1950,p.307
18. SSE, V.I.1929, p.97
19. BSE,V.2, 1950, p.307
20. Putevoditel', p.285
21. Ocherki Akad. p.227
22. SSE,V.1, 1929, p.97
23. Guide to trans-Sib. p.405
24. Atlas Mira, map 75.
25. Guide to trans-Sib. p.405.
26. BSE, V.2, 1926, p.558
27. Putevoditel', p.286
28. Ibid.
29. Atlas Mira, map 75.
30. Turist, p.85
31. Guide to trans-Sib. p.406
32. Turist, p.85
33. Guide to trans-Sib. p.406
34. Ibid.
35. Putevoditel', p.286
36. Ibid.
37. Guide to trans-Sib. p.407
38. L. K. Davydov,V.II. 1955, p.499

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.—31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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STAT

AIR INTELLIGENCE INFORMATION REPORT

39. Guide to trans-Sib. p.407
40. Putevoditel', p.286
41. Ibid.
42. Guide to trans-Sib., p.407
43. Putevoditel', p.286
44. BSE,V. 24, 1953, p.46
45. Ibid, V.2, 1950, p.307, c.l.
46. Turist, p.86
47. Ibid., also Guide to trans-Sib., p.407-8
48. Guide to trans-Sib. p.408
49. BSE,V.2, 1950, p.307
50. Guide to trans-Sib. p.408
51. Ibid.
52. SSE,V.1, 1929, p.97; also Liver.&Kol. p.110; also Ocherki Akad. p.227
53. Liver.&Kol. p.110
54. Ocherki Akad. p.227
55. SSE,V.1, 1929, p.97
56. L.K. Davydov,V.II. 1955,p.499
57. BSE,V.2, 1950, p.307
58. L. K. Davydov,V.II, 1955, p.499
59. Guide to trans-Sib., p.414
60. BSE,V.2, 1926, p.559
61. Ocherki Akad. p.228
62. Guide to trans-Sib., p.413
63. Turist, p.90
64. Guide to trans-Sib., p.413
65. BSE,V.2, 1926, p.59
66. Turist, p.90
67. BSE,V.1, 1926, p.756
68. Guide to trans-Sib., p.414
69. Ibid.
70. BSE,V.2, 1926, p.564
71. Guide to trans-Sib., p.414
72. Ibid
73. SSE, V.1, 1929, p.97
74. L. K. Davydov,V.II, 1955, p.499
75. SSE,V.1, 1929, p.97
76. L. K. Davydov,V.II, 1955, p.499
77. Guide to trans-Sib., p.414
78. Atlas Mira, map 75
79. Guide to trans-Sib., p.414
80. Atlas Mira, map 75
81. Guide to trans-Sib., p.414
82. L. K. Davydov,V.II, 1955, p.499; also BSE,V.2, 1926, p.559, also Guide to trans-Sib., p.414
83. Guide to trans-Sib., p.414
84. L. K. Davydov,V.II, 1955, p.499
85. BSE,V.2, 1926 p.599
86. BSE,V.2, 1926, p.559; also L. S. Berg, 1955, p.82
87. Guide to trans-Sib., p.414
88. Ibid
89. Turist, p.91
90. Ibid., p.91

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91. Guide to trans-Sib., p.415
92. Ibid
93. L. K. Davydov,V.II, 1955, p.499
94. SSE, V.1, 1929, p.97
95. Guide to trans-Sib., p.414
96. SSE,V.1, 1929, p.97
97. BSE,V.2, 1950, p.307
98. Ocherki Akad. p.228
99. Guide to trans-Sib., p.414
100. L. K. Davydov,V.II.1955, p.499 and Guide to Trans-Sib., p.417
101. Guide to trans-Sib., p.417
102. Ibid., and turist, p.91
103. Guide to trans-Sib., p.417
104. Ibid., p.418
105. BSE,V.25, 1953, p.555
106. Guide to trans-Sib., p.418
107. Ibid., p.417
108. Ibid., p.418
109. Turist, p.92
110. Guide to trans-Sib., p.418
111. BSE,V.2, 1926, p.564
112. Guide to trans-Sib., p.418
113. BSE,V.2, 1926, p.564
114. L. K. Davydov,V.II, 1955, p.499
115. Liver.&Kol. p.110
116. BSE,V.2, 1926, p.559; also SSE,V.1, 1929, p.97
117. SSE,V.1, 1929, p.97; also BSE,V.2, 1926, p.559
118. Turist, p.92
119. Atlas Mira, map 82-3
120. L. K. Davydov, V.II., 1955, p.499; and Atlas Mira, map 82-3
121. L. K. Davydov, V.II., 1955, p.499
122. Turist, p.117
123. Ibid., p.92
124. L. K. Davydov,V.II.1955, p.499
125. Turist, p.117
126. L. K. Davydov,V.II., 1955, p.499
127. BSE,V.2, 1926, p.564
128. Turist, p.117
129. Ibid., p.95
130. Ibid. pp.94-5
131. Artamonov, D. S.; Transport i Torgovlya po vostochnoy Granitse SSR (Transport and trade on the Eastern Frontier of the USSR) MosKva, 1928. Abbreviated further to "Artamonov". p.286
132. Turist, p.95
133. Southeast Coast of Siberia and Korea Sailing Directions. H. O. Publication No. 122B. Washington, 1951, 484p. Abbreviated further to "US 122B", p.55.
134. BNG, p.464
135. US 122B, p.55
136. US 122B, p.55; also BNG, p.464
137. BNG, p.464
138. US 122B, p.55; also BNG, p.464
139. Turist, p.97
140. Ibid., p.98
141. Ibid
142. Ibid., p.118

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AIR INTELLIGENCE INFORMATION REPORT

143. Turist, p.118
144. Ibid
145. Ibid., p.98
146. Atlas Mira, map 82-3
147. US 122B, p.54
148. Ocherki Akad. p.228
149. Atlas Mira, map 82-3
150. BNG, p.464
151. US 122B, p.54; also BNG, p.464
152. Atlas Mira map 82-3
153. L. K. Davydov, V.II. 1955, p.499
154. Turist, p.118
155. Ibid., p.119
156. Atlas Mira, map 82-3
157. Ocherki Akad, p.228
158. BNG, p.464
159. US 122B, p.54; also BNG, p.464
160. Ekonomicheskaya Zhizn' Dal'nego Vostoka (Economic Life of the Far East) Nos. 7-8, June-August 1929, p.57 Abbreviated further "EZDV".
161. EZDV, p.57
162. US 122B., p.54
163. BNG, p.464
164. Ibid., also US 122B, p.54
165. EZDV, p.57
166. Atlas Mira, map 82-3
167. US 122B, p.54; and BNG, p.464
168. US 122B, p.54
169. BNG, p.464
170. US 122B, p.54
171. US 122B, p.54 and BNG, p.464
172. US 122B, p.54
173. US 122B, p.54 and BNG, p.464
174. US 122B, p.54; and BNG, p.463
175. L. K. Davydov, V.II., 1955, p.514
176. Ibid
177. SSE, V.1, 1929, p.365
178. L. K. Davydov, V. II., 1955, p.514
179. Ibid., also SSE, V.1, 1929, p.365
180. SSE, V.1, 1929, p.365
181. Ibid.
182. Turist, p.99
183. L. K. Davydov, V.II., 1955, p.514
184. EZDV, p.58
185. Ibid.
186. ESDV, No. 7-8, 1929, p.58
187. L. K. Davydov, V.II., 1955, p.514
188. EZDV, p.58
189. Ibid., p.56
190. BSE,V.2, 1926, p.559; also BSE,V.2, 1950, p.307
191. Liver.&Kol., p.110
192. Popkov, p.306
193. BSE,V.2, 1926, p.559; also SSE,V.1, 1929, p.98
194. US 122B, p.42
195. Valyakhin: Nikolayevskiy na Amure Port (Port of Nikolayevsk-on-the-Amur), Nikolayevsk-na-Amure, 1926. Abbreviated to "NAP". p.12

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AF FORM 112—PART II
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196. L. S. Berg., 1955, p.451
197. US 122B, p.42
198. BNG., p.448
199. US 122B, p.42
200. Ibid
201. SSE., V.o, 1929, p.98
202. NAP, p.10; also L. K. Davydov, V.II., 1955, p.499
203. NAP, p.10
204. US 122B, p.139
205. BNG, p.459
206. Ibid
207. US 122B., p.139
208. BNG, p.459
209. NAP, p.11
210. US 122B, p.139
211. Artamonov., p.277
212. BNG, p.449
213. NAP, p.11
214. BNG, p.458
215. Ibid., p.459
216. NAP., p.11
217. Ibid.
218. US 122B., p.46
219. NAP, p.11
220. Ibid., p.2
221. Ibid., p.12
222. US 122B, p.46-7
223. BNG, p.449
224. Artamonov., p.277
225. US 122B, p.48
226. Ibid
227. Ibid., p.46-7
228. Ibid., p.49
229. Ibid
230. BNG, p.461
231. US 122B, p.49
232. BNG, p.461
233. Ibid
234. US 122B, p.50
235. BNG, p.461
236. US 122B, p.50
237. BNG, pp.460-61
238. US 122B, p.50; and BNG, p.461
239. US 122B, p.50
240. Ibid; and BNG, p.461
241. BNG, p.461
242. US 122B, p.49
243. BNG, p.461
244. US 122B, p.139
245. BNG, p.466
246. NAP, p.12
247. BNG, p.466
248. NAP, p.12
249. US 122B, p.139
250. BNG, p.466
251. US 122B, p.144

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252. US 122B, p.144
253. Ibid
254. Ibid
255. Ibid
256. Ibid
257. SSE, V.1, 1929, p.804
258. US 122B, p.144
259. Ibid
260. Ibid
261. SSE, V.1, 1929, p.804
262. Artamonov, p.248,9
263. BNG, p.406
264. Ibid
265. Ibid
266. Ibid
267. Ibid
268. US 122B, p.146
269. EZDV, p.56, V.7-8, 1929
270. US 122B, p.147
271. Ibid., p.146
272. BNG, p.406
273. US 122B, p.147
274. BNG, p.406; also US 122B, p.147
275. US 122B, p.147
276. Ibid; and BNG, p.406
277. US 122B, p.148
278. Ibid; also BNG, p.406
279. US 122B, p.148
280. Ibid., p.147
281. BNG, p.406
282. EZDV, V.7-8, 1929, p.56
283. Artamonov, p.206, 199
284. Ibid., p.249
285. NAP, p.142
286. EZDV, V.7-8, 1929, p.57
287. US 122B, p.144
288. Pravda, No.317, 12 Nov. 1956, p.2
289. Ibid
290. Ibid
291. Ibid
292. Zheleznodorozhnyy Transport (Railroad Transport), No. 10 October 1956, p.48

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CHAPTER III - HYDROLOGICAL CONDITIONS ON THE AMUR RIVER

A. The Water Sources

B. Discharge Conditions

C. Variations in Water Level and Speed of Flow

1. Water Level Variations

a. On the Amur River

b. In the Estuary and in the Bay of Amur (Tidal Currents)

2. Speed of Flow

D. Ice Conditions

E. The Snow Cover

F. The Solid Discharge and Chemical Content of the Amur River.

1. Solid Discharge

2. Chemical Content

A. The Water Sources

The hydrological conditions of the rivers of the Far East reflect climatic conditions differing sharply from those prevailing in other areas of the USSR.(1) because the climate of the Soviet Far East has a clearly defined monsoon character.(2)

In the winter, the outspur of the Siberian anti-cyclone sweeps down on the Amur River basin and on the Maritime region.(3) There is little precipitation(4) and winters are cold.

In the summer, lowered pressure of air on the continent causes monsoon winds. This season is warm and humid and the rainfall is heavy,(5) causing violent floods and inundations.(6)

Owing to the peculiar climatic conditions, the rivers of the Pacific Ocean basin may be subdivided into 2 main groups according to the origin of the water sources: 1) rivers clearly fed mainly by rainfall, and 2) rivers fed mainly by melting snows and a considerable volume of rainfall waters.(7)

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All the rivers of the Amur River basin and the rivers flowing from the Sikhote-Alin moutain range in the Maritime Kray, belong to the first group.(8)*

In winter the Amur River basin is fed by ground waters(9) but this source of water is relatively poor owing to the prevalence of permafrost and the depth to which the soil is frozen.(10)

Precipitation is also usually poor in winter(11) and the snow cover thin, so that the spring flood season does not contribute as much water as do the rivers of other parts of the country.(12)

Precipitation is at its lowest in February and starts to increase in March until mid-June. Precipitation from April to October usually accounts for 85-95% of its yearly volume. (13)

Beginning with the second or third part of June, when monsoon rains start to fall, precipitation increases sharply and reaches its maximum in July and August.(14) Another source says the monsoon caused flood season lasts from May to September.(15)

Maximum yearly discharges are usually caused by the abundant summer rainfall and the influence of the summer rains is enhanced by the mountainous character of the area, the rain season covering vast territories at the same time.(16)

The rivers then overflow inundating vast areas. The problem of regulating their flow during the flood season is a very urgent one for the Far Eastern area of the USSR.(17)

In the middle and lower reaches of the Amur River, the rain season has numerous and very levelled peaks due to the influence of the many tributaries the flood period of which does not coincide in time.(18)

Several successive isolated summer floods are observed in the upper reaches of the Amur river, at the village of Pokrovka, at the merging of the Shilka and Argun' rivers, headwaters of the Amur.(19)

The maximum precipitation occurs in the second half of the summer.(20) In September, the rains are less abundant, although the yearly maximum of the monthly volume of precipitation is sometimes observed in that month.(21)

*To the second group belong rivers of the Sea of Okhotsk seaboard, of the Anadyr' River basin, of the Chukotka Peninsula, the Sakhalin Island and Kamchatka Peninsula. These rivers are fed mainly (60% of the yearly flow) by snow, although rain waters account for a considerable portion of their discharge, especially on Sakhalin Island, and their flood season occurs in the spring. (Ocherki: Akad. p.221)

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The yearly volume of precipitation decreases from east to west* The highest volume-from 700 to 1,000 mmm falls on the Sikhote-Alin' range and the Kamchatka Peninsula.(22)

In the lower and middle reaches of the Amur River Basin, precipitation amounts to 400 to 600 mm, while in the upper, western part of the basin it decreases to 300-400 mm, and in the trans-Baykal area, precipitation is only 300 mm.(23)

In the Yam-Alin' mountain range, where flow the headwaters of the Selemdzha River (tributary of the Zeya River), the Niman River (tributary of the Bureya River), and the Bureya River(24), and in the Bureya mountain range, the yearly precipitation increases again to 600-800 mm.(25)

Hydrographic conditions of the rivers of the area are modified to some extent by the topography and marshiness. Usually the marshes exert little influence on the hydrographic conditions of the Amur River basin, mainly because of the poor regulating capacity of the marshes in this area. It is only occasionally that they exert a more noticeable influence on the distribution of the flow of the river, causing a levelling of the flood peaks and creating a more even process of flow.(26)

B. Discharge Conditions

The rivers of the Amur River basin have a very irregular rate of discharge, which is high in the summer and autumn during the flood season and then drops sharply during the cold period of the year.(27)

The discharge is mainly linked to the summer and autumn rainfall and to a lesser degree, to waters produced by melting snows.(28)

Rainfall accounts for 60-70% according to one source(29), and 75-80% according to another of the yearly discharge of the rivers of the Amur basin and the Maritime Kray.(30)

The average yearly discharge of the Amur is 11,000 cu m/sec.(31) The Amur River has a discharge of 15,000 cu m sec, according to B.D. Zaykov (quoted in Davydov, p.65) but another chart also given by Zaykov (quoted in Davydov, p.66)gives 11,000 cu m/sec as the discharge of the Amur River.(32)

*Decreasing precipitation from east to west is also observed on Kamchatka, where its volume varies between 1,000 to 400 and 500 mm. On Sakhalin Island, precipitation reaches 590-700 mm in a day, the western coast receiving more precipitation than the central part of the island. In the northern part of the Okhotsk seaborad, the yearly volume of precipitation reaches only 200-300 mm on the average, but in the southern part of the Okhotsk seaboard, precipitation increases to 500-700 mm. (Ocherki Akad. p.22?)

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The mean yearly discharge of the Amur River is quite considerable. In the upper reaches, at the village of Pokrovka, it is 840 cu m/sec; at Khabarovsk 8,600 cu m/sec, at Komsomol'sk - 9600 cu m/sec and in the estuary - 11,000 cu m/sec.(33)

The water discharge on the Amur River near Khabarovsk during average flood levels is about 50,000 cu m(34), but in the flood season of 1905, the discharge at this point was about 48,000 cu m.(35)

The volume of the yearly flow of the Amur in the estuary is of 346 cu m/sec. This volume of water is distributed among the tributaries of the Amur River as follows:(36)

Distribution of the yearly flow of the Amur among its tributaries

River	Volume of yearly discharge in cu km	Percentage of yearly discharge of Amur River
Shilka	14	4,0
Argun'	13	3.8
Zeya	57	16,5
Bureya	30	8.7
Sungari	63	18.2
Ussuri	63	18.2
Tunguska	12	3.5
Amgun'	19	5.4
Other tributaries	75	21.7

(37)

During the autumn months, lower air temperatures and resulting lower evaporation cause a high discharge despite the lesser volume of precipitation as compared to the summer volume. Moreover, in the autumn, vegetation gradually ceases its development and consumption of water.(38)

In the end of October and the beginning of November, frosts stop the flow of surface waters and the discharge and levels of the rivers fall sharply.(39) As the cold season advances, low discharge reaches even complete exhaustion of ground waters reserves and sometimes some rivers freeze through.(40)

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The permafrost also contributes to the low winter discharge in the Amur River Basin in the months from November to March. Winter discharge on the Shilka, Zeya and Selemdzha rivers accounts for only 3 to 7% of the yearly flow, and on the Amur River at Komsomol'sk, it accounts for only 10% of the yearly flow.(41) Other sources set the proportion of the winter flow at Komsomol'sk at 4% of the yearly flow.(42)*

In the spring, usually in April, discharge of the rivers of the Amur basin increases owing to the melting snows, but as the snow cover is thin, the maximum discharge and water levels of this period exceed as a rule only 3 to 6 times the average yearly discharge(43) and from April to May amount to only 15 to 20% of the yearly discharge(44) and are considerably inferior to maximum discharges and levels observed during the period of summer rains.(45)

In most rivers of the Far Eastern area the maximum discharge during the summer rainfall season exceeds 6 to 10 times** the average yearly discharge and in the case of small rivers, exceeds this average yearly volume 25 to 30 times and more. The small rivers of the Zeya-Bureya lowland are an exception and there, spring maximums in occasional, mainly dry years, may exceed the rainfall-caused maximums.(46)

The maximum flow of the summer-autumn season (June-October) compounds as much as 75-85% of the yearly flow. In other months of the year the discharge varies little, amounting to 14 to 17% of the yearly volume.(47)

*According to some sources, at Komsomol'sk, 4% of the yearly discharge of the Amur takes place in winter (Dec.-Feb.) 29% in spring (Mar.-Jun.), 32% in summer (Jul.-Aug.) and 35% in autumn (Sept.-Nov.)
(L. K. Davydov, p.103, 1953 and Liv.&Kol.p.107)

**According to another source, the maximum discharge during the high water season exceeds on the average 10 times the average yearly flow.
(Liv & Kol. p.107)

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C. Variations in Water Level and Speed of Flow

1. Water Level Variations

a. On the Amur River

The peculiarities of the monsoon climate and the topography of the Amur River basin cause exceptional phenomena in the variations of the water level of the Amur that distinguish it from other Siberian rivers.(48)

Owing to the thin snow cover and the longer duration of the spring season in the region, the Amur River does not have regular spring floods.(49)

Melting snows in the plains cause a small rise in the water level in April(50), when the level rises in the spring usually in the beginning or the middle of the month.(51) But another source says levels start to rise in the second half of April(52) and a later source mentions that melting snows in the mountain cause another rise in May.(53)

Melting snows being of secondary importance as a source of water, the spring floods are not high on the Amur and the summer floods are far greater(54) being due to abundant rainfall(55) during the monsoon season.(56)

In some years, these floods, are also caused by "typhoons" coming from the Pacific Ocean(57) and together with the snow melting in the summer in the mountains may cause catastrophic floods. A swift of the waters floods the valley, sweeps away settlements, cattle and people. In 1872 the waters rose more than 10 m at Blagoveshchensk and 15 m at Albazin and in the Malyy Khingan gorge. In 1928 Zeya and Blagoveschensk suffered great damage.(58)

According to a 1946 source, water has risen as high as a 5-story house on the Amur and a steamer once sailed down the main street of Blagoveshchensk.(59)

During the summer floods, the middle and lower Amur sometimes widens to 10 and 25 km. The waters rise 10 to 14 m on the upper and middle Amur and 6 to 7 m on the Lower Amur(60) where the wide flood bed of the lower Amur is able to regulate somewhat the flow.

In general, the water level range on the Amur River has a range of 9.7 m at Sretensk, of about 6 m at Khabarovsk, and of 2.36 m at Nikolayevsk.(61)

The lowest level occurs in the middle of March.(62)

High water levels occur at Khabarovsk from May to September(63) and the water rises more than 10 m at that time(64) the maximum being 10.7 m according to another source.(65)

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At Nikolayevsk, the maximum level occurs in the spring during the ice debacle, and the average variation in levels is much less pronounced than at Khabarovsk being only 2.35 m.(66)

A fall in the water level starts in September and is interrupted by small rises of the water level caused by autumn rains.(67)

The lowest water levels are observed in the winter.(68)

During the winter months, levels on all rivers of the Amur Basin vary relatively little the variations being caused by modification in the conditions of flow and the exhaustion of reserves of river water.(69)

According to another authority, there are 3 flood periods on the Amur River basin. The first occurs in the end of May first half of June, the second in August and the third in October.

During the spring flood period, the water level rises as follows:

Sretensk — 68 cm

Pokrovka — 64 cm

Blagoveshchensk — 1.39 m

During the August flood period, the water level rises (minimum rise)

Sretensk- 75 cm

Pokrovka - 1.39 m

Blagoveshchensk - 2.13 m

At the landing stages of the Amur River basin, the maximum and average navigation season levels above the minimum levels were observed to be as follows (from 1897 to 1917):

	Maximum	Average Level of Navigation Season
Upper Amur	860 cm	222 cm
Middle Amur	1.082 cm	352 cm
Lower Amur	2.041 cm	271 cm
Shilka River	962 cm	147 cm
Zeya River	642 cm	228 cm
Ussuri River	608	207 cm (70)

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b. Water Level Variations (Tidal Currents) in the estuary of the Amur River and in the Bay of Amur

The variations in the water level of the Amur River estuary and the Bay of Amur are characterized by tidal currents.

There are 2 flood currents entering the Gulf of Amur: the south-going flood from the Okhotsk Sea enters the northern part of the gulf between Ostrov Baydukov and Mys Tamlevo and the north-going flood moving from the Japan Sea, enters the southern part of the gulf through the Strait of Tartary.(71)

The outflow of the Amur River comprising two branches setting from the mouth of the river in a southerly direction and a northerly direction presents an additional factor strongly affecting the tidal currents in the gulf.(72)

The southern branch of the outflow of the Amur River serves to retard the north-going tidal currents and to accelerate the south-going tidal currents in that part of the gulf southward of the mouth of the Amur River.(73)

The northern branch of the outflow tends to retard the south-going tidal currents in that part of the gulf northward of the mouth of the Amur River.(74)

The flood tide from the Strait of Tartary enters the Bay of Amur from the north with a speed of 2 knots, meets the shore of Salkhalin south of Cape Pogibi and from there turns West-North Westward and Northward with a speed of from 3 1/2 to 4 and sometimes 5 knots at Mys Lazarev. Further the main stream moving along the fairway to Chekmut and Khagemif Islands, gradually abates in strength, so that at Khagemif Island the speed of the current is only of 2 to 3 knots.(75)

On the whole extent from Mys Lazareva to Mys Dzhaore, the incoming tide is semi-diurnal. At Mys Lazareva, high tide lasts about 1 hour and then falls rapidly, the high tide rising 1.52 m but sometimes also 2.74 m. At Chome Island, the high tide lasts as much as 50 minutes and rises 1.21 m, while at the Bol'shoy Khagemif Island it rises from 60 cm to 91 cm. Further, from Mys Dzhaore to Mys Pronge, high tides are irregular and depend mostly on winds. They are diurnal and rise during southerly winds to 45 cm and during North and Northeasterly winds to 31 cm. The current is continuously southward with a speed of about 1 knot.(76)

The ebb tide is everywhere opposite to the incoming tide in direction. The incoming tide from the Sea of Okhotsk to the Sakhalin fairway enters north of the Bay of Amur in two currents: from the West-west to the southern side of the northern bank and from West between the bank and Mys (Cape) Golovacheva on Sakhalin Island. Both these currents merge near the village of Petumbovo and flow together along the Sakhalin fairway southward, sometimes with a speed of 4 knots. This flood tidal current from the Sea of Okhotsk flows also along the shallows of the northern part of the Bay of Amur rising there the water 1.52 m to 2.74 m depending on the phases of the moon.(77)

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In the northern fairway, near Kermorstos Island and Langr Island the tide is diurnal and during the syzygy, the tide rises 1.82 m and 2.13 m and during the quadratures from 2.12 cm to 1.52 m.(78)

During southerly winds the flood tidal current does not flow faster than 1 1/2 knots, and during ebb tide not faster than 3 1/2 knots. Ebb tides follow inverse order along the Sakhalin fairway as well as along the banks.(79)

The flood tides from the Sea of Okhotsk pass along the entire length of the northern fairway and sometimes have such a force that even at the Kermorstos Island they raise the water level 1.07 m, at Mys Puir 1.36 m and at Mys Ozerpakh 1.06 m. They form an inverse current even at Mys Tabakh and reach Nikolayevsk where they rise the water level up to 45 cm and 60 cm in the small roadstead. The speed of the flood tide current at Langr Island is about 1 1/2 knots, and that of the ebb tide up to 3 1/2 knots and more. Winds have a strong influence on the height of the tide and the speed of the currents they cause on the Sakhalin fairway.(80)

The Sakhalin fairway must be divided into 2 parts. The first, (southern) has currents that alternate 4 times in 24 hours, obeying the action of the flood and ebb tides. The flood tide goes from south to north from 0. to 6 hours of the lunar time, and then from 6 hours to 12 hours of the lunar tide, the ebb tide goes in the opposite direction.(81)

The speed of the current is 1-2 knots. On the bend of the fairway abreast Mys Pronge the action of the strong current of the eastern fairway of the estuary of the Amur River causes both currents to bend, so that the direction of the flood tide here is West-East and East-West East, and that of the outgoing tide is south-southeast. The speed is still about 2 knots. In the northern part of the fairway there is only one flood tide and one ebb tide per 24 hours and the current changes only twice in 24 hours.(82)

The highest waters in the Bay of Amur occur in the spring, during the season of melting snows and in the autumn after lengthy fresh winds, but the frequent summer floods on the Amur also exercise an influence on the water level of the South Bar.(83)

The current proper of the Amur River extends to the south from Khagemif Island(84) and a little further, where meeting the flood tide there is a big tide rip, and along the northern fairway where it reaches the northern roadstead(85) as its main body flows north-eastward through Fairvater Nevel'skogo(86)

2. Speed of Flow

As the Amur River flows eastward, it descends two major steps in the terrace-like structure of Eastern Asia(87) that slopes down to the ocean.

The first step is the Bol'shoy Khingan range, the second, the Small Khigan range, and as it flows northward from Khabarovsk, the Amur River also by-passes the third step, formed by the Sikhote-Alin mountain range.(88)

From the confluence of the Shilka River and the Argun' River to the estuary of the Amur River, the longitudinal cross section of the Amur is flat of a lowland stream, with an average fall of 11 cm per 1 km.(89) The speed of the flow ranges from 4-7 km per hour.(90)

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In the upper reaches of the Amur River, from Pokrovsk to Blagoveshchensk the average speed of the current is about 6 km per hour, there are 75 shoals with a minimum depth of 75 cm.(91) (See Chapter V)

In the middle course of the Amur River, the average speed of flow is 4.2 km per hour according to one source(92) and 5.5 km per hour in the quiet reaches and up to 8.5 km per hour on the shoals of which there are 16 in these reaches according to another source.(93)

In the lower reaches of the Amur River, the speed of the current is about 3 km per hour(94), increasing to 4 km during high water(95) and only 1.5 km per hour in the lowest reaches.(96)

D. Ice Conditions

The Amur River freezes for 5 to 6 months depending on the reaches(97) starting from the middle of November until about the middle of May. It occasionally remains ice-bound until the end of May or the beginning of June, but is usually open to navigation between the 10th and 20th May(98)

In general the Amur River opens up in its upper reaches (Zeya - Blagoveshchensk) 4 to 5 days later than in the middle reaches.(99)

The Amur River opens up at Blagoveshchensk between 13 April and 6 May, and freezes up between 19 October and 5 November.(100)

At Khabarovsk, below the confluence of the Ussuri River, the Amur is covered with ice five months of the year, from the end of November to the end of April(101) or 151 days on the average.(102) According to a 1926 source, the river freezes at Khabarovsk about 24 November.(103) Another, later source advances the day of freezing by stating that the Amur freezes at Khabarovsk about Nov.1, and adds that the surface of the ice is too rough there for traffic.(104)

This same source states that the Amur opens up at Khabarovsk about 1 May(105) while an earlier source says the Amur opens up about 24 April (on the average).(106)

In the channel near the village of Mariinskoye, the average date of the ice setting occurs on 8 November as a result of which, the duration of the autumn ice movement, lasting here 10 days on the average, is sharply reduced.(107)

In general, the Amur opens up at Nikolayevsk 7 to 11 days later than in the middle reaches of the Amur.(108)

At Nikolayevsk, near the estuary, the Amur River opens up on the average about 18 May according to one source(109), from 12 to 31 May according to another source(110) and from 6 to 26 May according to yet another source.(111)

Freezing up at Nikolayevsk occurs between 4 to 15 November according to one source(112), and 27 October to 11 November according to Artamonov(113) the ice cover lasting some 189 days.(114)

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AF FORM 112—PART II
APPROVED 1 JUNE 1948

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Although the Amur River abreast of Nikolayevsk is cleared of ice in most cases by the middle of May, it is possible to sail down the river only at the end of May, when the Bay of Amur becomes definitively free of floating ice. For this reason, the duration of the navigation period in Nikolayevsk is of 5 to 5 1/2 months.(115)

The autumn ice movement has its own peculiarities in the Amur River Basin.(116)

The average interval of time between the appearance of grease ice (salo) and setting of the ice (in a normal navigation period) is about 9 days, i.e. about the time taken for this in other rivers. In exceptional navigational seasons (1924) this interval lasts as little as 12 hours. In the areas where the river flows through rocks, and where the bottom consists of shingle and gravel, bottom ice appears and reinforces welding of the grease ice thus hastening emergence of ice to the surface of the river.(117)

Owing to the enormous force of the ice movement in autumn the problem of inlets for vessels on the Amur basin is of especial significance, because on this river the autumn ice movement is the main cause of damage to vessels. In the spring the ice is friable, floats on shallow water and is therefore less dangerous.(118)

In many areas of the southern half of Eastern Siberia, in the basin of the upper and middle Zeya for instance, the ice setting period starts before the fall of snow. Thin "salo" or grease ice appears on the Zeya and its main tributaries and an.ice movement grows always more dense. During frosty nights the thin grease ices are welded together into a solid crust, but during the day the movement of ice resumes. Growing crusts of landfast ice gradually form at the banks in quiet reaches and finally the rivers become icebound.(119)

Except for the mountain streams with a sharp fall, the rivers of the Amur drainage basin are covered with ice from 160 to 190 days a year.(120)

The ice is not uniformly thick everywhere nor every year. The minimum thickness of 85 cm was observed at Khabarovsk and the greatest 2.04 m was observed at the Chernyavskiy post. The average thickness of the Amur River ice is 1.07 to 1.28 cm while on shallow shoals, in the tributaries and in the inlets, the rivers sometimes freeze to the bottom.(121)

The thin snow cover and intense cold cause not only the banks of rivers but even some shoals to freeze through. When warm weather comes, the small volume of spring waters covers the surface of the ice, and then the latter breaks off from the banks and floats to the surface. The floating ice, weakened by the sun rays cannot erode the frozen banks and the bottom of the river also remains frozen. The debacle ends, navigation begins, but many shoals remain frozen through and cannot be dredged, frequently until the middle of June.(122)

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AF FORM 112—PART II
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The spring debacle on the Amur River is stormy(123) and in some places great ice jams occur during that time(124) which cause the water level to rise up to 15 m.(125)

The average duration of the spring debacle on the Amur is 8 days and as for other rivers depends on the water level and thickness of the ice. Ice coming from the northern tributaries flows into the Amur sometimes after the opening of the navigation season and must be taken into account during the first runs of the season.(126)

The Amur estuary, as far northward as about lat.53°39' N., is usually frozen over from about the middle of November to the end of May, but this period is liable to some modification in different years. In most cases the ice off the mouth of the Amur River has disappeared by May, although occasionally it persists as long as June;(127) in the northern part of the Amur estuary drift-ice is sometimes found in June, or even later, coming in from the Sea of Okhotsk.(128)

Observations extending over a period of 15 years give November 17 as the earliest date when the outer part of the mouth of the Amur River is frozen over and the latest date for its being free of ice as June 3.(129)

Fast ice forms and drift ice appears in the vicinity of Mys Pronge, the southern end of the Amur River estuary, early in November, and freezing is complete late in this month.(130) The break up begins about the middle of May and all ice disappears in late May.(131) The earliest recorded first appearance of ice is 24th October, the latest, 22nd November. The earliest final disappearance is 30th April, the latest, 29th May.(132)

In the spring, the northern part of the Bay of Amur, being more open to the sea, is cleared from ice(133) about one month earlier than in the southern part of the Bay, due partly to the warmer water flowing out of the Amur River, and partly to the narrowness of the southern part.(134) There the ice remains for a long time, especially in the narrow part of the Strait of Tartary, south of Mys Lazarev, until the southern passage into the Bay of Amur is cleared of ice up to Mys Yekateriny. This happens usually at the end of May, that is after 3 weeks and even a whole month after the Amur River is cleared of ice at Nikolayevsk.(135)

In view of the above conditions, the first navigation to Nikolayevsk starts earlier from the north from the Sea of Okhotsk, then from the south from the Strait of Tartary, for the northern part of the Bay of Amur has considerable width and the ice is freely carried out by the outgoing tide to the Sea of Okhotsk.(136)

Therefore, in the spring, a vessel bound for Nikolayevsk may find it advantageous to proceed eastward and northward of Sakhalin and enter the Gulf of Amur the way of Sakhalinskiy Zaliv. It should be borne in mind, however, that strong northerly winds tend to pack the northern approach to the Gulf of Amur with drift ice from the Okhotsk Sea.(137)

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Although the Amur estuary is frozen over during the winter, cracks occur in the ice owing to the tidal streams. In the navigable channel the ice is about 0.9 m thick; over the bars it is about 1,5 m thick.(138)

According to another source, the ice is 1.52 m thick on the banks and to 1.06 m on the fairway.(139)

The ice in the Bay of Amur seldom forms simultaneously and always appears in an irregular surface in places heaping up into mountains.(140)

Normal navigation in the Amur estuary may be taken to be from the laying out of the buoyage to its withdrawal, i.e., from 10 June to 12 October. The absence in this region of salvage vessels and ice-breakers renders late navigation dangerous. From 28th October to 30th May navigation is completely closed in the Amur estuary.(141)

The Strait of Tartary, northward of a line joining Mys Khodzhi and Mys Kloster Kamp (Lat.51 26' N., Long.140°53' E.) is closed to navigation by heavy ice, which is always in motion, for an average of over four months a year, from December to about the middle of April. Drift-ice is still heavy in May and normal navigation cannot usually be resumed until June.(142)

Between Nikolayevsk and De Kastri Bay, on the fairway, the bar between Uyzyut Island and Cape Dzhaore is the first to freeze, usually in the beginning of November. Then the fairway becomes covered with ice from Popov Island and south of it to Mys Yekateriny.(143)

E. The Snow Cover

A thin snow cover is observed in the greater part of the Far East, this making the winter more severe, the average temperature of January falling to -20° and lower.(144)

In the Amur Basin, therefore as a rule, the snowfall is limited and the snow cover thin. In the eastern trans-Baykal region, in the basins of the Shilka and Argun' rivers, the maximum thickness of the snow cover does not exceed 10 cm on the average during the winter.(145)

In the city of Nikolayevsk-na-Amure, the snow cover is only 10 cm to 12 cm thick; in Osipenko (Kerbi), on the Amgun' River, it is 17 cm thick, in Blagoveshchensk, it is 5 to 10 cm thick.(146)

As a result of the severe and poorly snowed winter, the ground freezes deeply, down to 2 m and more, and thaws very late, towards the end of May. Such a climate helps the development of permafrost, that is widespread enough. Concentrated precipitation at relatively brief intervals causes a heavy marshiness of the ground, made heavier by the presence of permafrost(147), for in the marshy sectors, the ground remains frozen most of the summer.(148)

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But there are areas where the snow cover is deep. The Primorskiy Kray extends to the lower reaches of the Amur River and penetrates southward along the Amur River valley as a short narrow tongue(149), called the "maritime tongue of deep snows" for there the snow cover is 40 to 60 cm deep.(150) Frequent and strong winds move the snow and cause its irregular stratification and also a strong consolidation of the snow cover.(151)

F. The Solid Discharge and Chemical Content of the Amur River

1. Solid Discharge

The turbidity of the Amur River is comparatively slight. Its average yearly amount, according to observations carried out over a few years, was of 110 gr per cu m at Khabarovsk and 107 gr per cu m at Komsomol'sk. The low degree of turbidity of the Amur is due to a great extent to the widespread permafrost and the forest covered area. The greatest degree of turbidity usually occurs in the spring months.(152)

2. Chemical Content

The waters of the Amur belong to the hydrocarbonate type and are characterized by a slight degree of mineralization, changing relatively little during the year. The small variations in the mineralization of the waters of the Amur in the summer and in winter are caused by the permafrost, that lowers the degree of influence of the lithological structure of the soils composing the Amur River basin and the mineralization of its waters. During the flood season, it changes from 40 to 100 mlgr per liter. The yearly flow of dissolved matters in the Amur was found to be of 18.72×10^6.(153)

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REFERENCE NOTES

Chapter III

1. Ocherki Akad, p. 221.
2. L. K. Davydov, Vodonosnost' Rek SSR i eye kolebaniya i vliyanie na neye fiziko-geograficheskikh faktorov (Volume of Flow and the Influence exerted on it of Physical and Geographical Factors), Leningrad, 1947, p. 114. Abbreviated to "Vodnosnost' Rek SSR".
3. Ocherki Akad, p. 221.
4. Apollov, p. 249; Ocherki Akad, p. 222.
5. Ocherki Akad, p. 221.
6. Vodonosnost' Rek SSR, p. 114.
7. Ocherki Akad, p. 221.
8. Ibid.
9. Apollov, p. 250.
10. Ocherki Akad, p. 229.
11. Apollov, p. 249; Ocherki Akad, p. 222.
12. Ocherki Akad, p. 222.
13. Ibid.
14. Ibid.
15. Apollov, p. 51.
16. Ocherki Akad, p. 222.
17. Ibid.
18. Ibid., pp. 233-4.
19. Ibid., p. 222.
20. Vodonosnost' Rek SSR, p. 114.
21. Ocherki Akad, p. 222.
22. Ibid., p. 221.
23. Ibid., p. 222.
24. Vodnosnost' Rek, p. 114.
25. Ocherki Akad, p. 222.
26. Ibid., p. 224.
27. Ibid.
28. Liv. & Kol., p. 107.
29. Popkov, 1955, p. 306.
30. Ocherki Akad, p. 221.
31. L. K. Davydov, Gidrografiya SSR (Hydrography of USSR), V. 1, 1953, p. 63; Apollov, p. 306; Liv. & Kol., p. 108.
32. Davydov, 1953, Vol. 1, p. 66.
33. Ocherki Akad., p. 229.
34. SSE, V. 1, 1929; Apollov, p. 51
35. BSE, V. 2, 1926, p. 559.
36. Ocherki Akad, p. 229.
37. Ibid.
38. Liv. & Kol. p. 107.
39. Ocherki Akad, p. 224.
40. Liv. & Kol., p. 107.
41. Ocherki Akad, pp. 224-5.
42. L. K. Davydov, V. 1, 1953, p. 103; Liv. & Kol. p. 107.
43. Ocherki Akad., p. 223.

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44. Ocherki Akad. p.225
45. Ibid.
46. Ibid.
47. Ibid., p.225
48. SSE, V.1, 1929, p.98
50. BSE, V.2, 1950 p.307
51. Liv&Kol. p.110
52. Ocherki Akad. p.229
53. BSE, V.2, 1950, ;.307
54. Popkov, 1955, pp.306,7
55. L. S. Berg, 1955, p.82
56. BSE, V. 2, 1950, p.307
57. Ocherki Akad. p.229
58. SSE, V. 1, 1929, p.98
59. N. N. Mikhaylov; Zemlya Russkaya (Russian Soil), Moskva, 1946, p.238
60. Popkov, 1955,p.307
61. SSE, V.1, 1929, p.98
62. BSE, V.2, 1926, p.559
63. Ibid.
64. Apollov, 1951, p.51
65. BSE, V.2, 1926, p.559
66. Ibid.
67. Ocherki Akad. p.229
68. Liv.&Kol. p.110
69. Ocherki Akad. p.223
70. Artamonov, p.224
71. US, 122B, p.43
72. Ibid.
73. Ibid.
74. Ibid.
75. NAP, pp.14-15
76. NAP, p.15
77. Ibid.
78. Ibid.
79. Ibid.
80. Ibid.
81. Ibid., pp.15-16
82. NAP, p.16
83. Ibid.
84. BNG, p.462; also NAP, p.16
85. NAP, p.16
86. BNG, p.462
87. SSE, V.1, 1929, p.98
88. Ibid.
89. Popkov, 1955, p.306
90. Artamonov, p.224
91. Ibid. p.223
92. SSE, V.1, 1929, p.98
93. Artamonov, p.93
94. SSE, V. 1929, p.98
95. BSE, V.2, 1926, p.55
96. SSE, V.1, 1929, p.98
97. Ocherki Akad. p.230
98. BNG, p.462

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99. Artamonov, p.223
100. Ibid.
101. L. S. Berg, 1955, p.82
102. Apollov, p.51; also BSE, V.2, 1926, p.559
103. BSE, V.2, 1926, p.559
104. US 122B, 1951, p.55
105. Ibid.
106. BSE, V.2, 1926, p.559
107. L. K. Davydov, V.II, 1955,p.500
108. Artamonov, p.223
109. BSE,V.2, 1926, p.559
110. SSE, V.1, 1929,p.98
111. Artamonov, p.223
112. SSE, V.1, 1929, p.98
113. Artamonov, p.223
114. Apollov, p.51; also BSE, v.2, 1926, p.559
115. NAP, p.17
116. Artamonov, p.222
117. Ibid.
118. Ibid.
119. Liv&Kol. p.108
120. Murzayev, p.106
121. Artamonov, p.224
122. Ibid., p.222
123. Ocherki Akad. p.230
124. Popkov, 1955, p.307; also Ocherki Akad. p.230
125. Popkov, 1955, p.307
126. Artamonov, p.223
127. BNG, p.9; and US 122B, p.43
128. NAP, p.17; US 122B, p.43; and BNG, p.9
129. US 122B, p.43
130. BNG, p.458
131. NAP, p.17; also BNG, p.458
132. BNG, p.458
133. NAP, p.17
134. US 122B, p.43; and BNG, p.9
135. NAP, p.17
136. Ibid.
137. US 122B, p.43
138. Ibid; also BNG, p.449.
139. NAP, p.17
140. NAP, p.16
141. BNG, p.9
142. Ibid.
143. NAP, p.17
144. Vodonosnost' Rek SSR, p.114
145. Ocherki Akad. p.222
146. Vodonosnost' Rek SSR, p. 114
147. Ibid.
148. Ocherki Akad. p.222
149. Liv.&Kol. p.97
150. Ibid., p.245
151. Ibid., p.97
152. L. K. Davydov, V.II, 1955, p.501
153. Ibid.

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CHAPTER IV - TRIBUTARIES OF THE AMUR RIVER

A. The Shilka River
Description - Note on Sretensk - Hydrological Conditions - Ice Conditions.

B. The Argun' River
Description - Hydrological Conditions - Ice Conditions

C. The Zeya River
Description - Note on Zeya - Hydrological Conditions - Ice Conditions

D. The Bureya River
Description - Hydrological Conditions - Ice Conditions

E. The Sungari River
Description - Hydrological Conditions - Ice Conditions

F. The Ussuri River
Description - Hydrological Conditions - Ice Conditions

G. The Amgun' River
Description - Hydrological Conditions - Ice Conditions

H. Smaller Tributaries of the Amur River
Amazar - Albazikha - Kumara - Bireya - Arkhara - Bidzhan - Bol'shaya Bira - Tunguska - Gorin

A. The Shilka River

Description

The Shilka River is formed by the confluence of the Ingoda River which starts in the trans-Baykal area, near the Sokhondo "Golets" (mountain) (1), and the Onon River, that starts in the People Republic of Mongolia.(2) The river flows in a narrow forested valley, between high banks. The spurs of the Yablonovyy Khrebet (mountain range) and the Shilkinskiy Khrebet (mountain range) stretch along the left bank, and the foot-hills of the Nerchinskiy Khrebet extend on the right bank.(3)

The Shilka River is 555 km long.(4) It has a drainage basin of 200,900 sq km in area.(5) At its confluence with the Argun' River, it forms together with the latter, the Amur River. The main tributaries are to the left, the Nercha, Kuyenga, Kara and Chernaya rivers, to the right the Kurenga River.(6)

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Below the confluence of the Chernaya River, at one of the most picturesque spots on the Shilka River, and which is the latter's largest left bank tributary, the Shilka River changes its direction sharply, owing to a perpendicular rock that bars the way and into which a cavern eroded by the river has been deeply cut.(7)

Below the settlement of Myshegda (also Moshegda), the banks of the Shilka River are so mountainous, that apart from 7 stations on a stretch of 200 km, there were no settlements there in 1929. This place is known under the name of "Sem' Grekhov" (Seven Sins). Communications are especially difficult here in the winter owing to the extremely high winds that roar down the canyon of the river between the mountains.(8)

Note on Sretensk

The town and port of Sretensk is situated on the right bank of the Shilka River and owes its importance to being the chief point of junction between the river and railway systems.(9) It is the starting point of steamship navigation.(10) The Shilka is about 700 m wide at Sretensk.(11)

Sretensk is reported to have a flour mill, a brick yard, a teachers' school.(12) The 1926 census gave its population as 10,254,(13) and in 1939 this population had increased to 12,800.(14)

The width of the Shilka River bed varies from 100 to 400 m.(15) Above Sretensk, the river is only from 320 to 427 m wide and it is about 700 m wide at Sretensk.(16)

The Shilka has more than 100 shoals on which the depth in low water is sometimes less than 0.5 m.(17) According to another source, there are 120 shoals.(18) But another, later (1952) source, states that from Sretensk on the Shilka River, to Dzhalinda on the Amur River, there are 106 shoals, the majority having depths of from 0.7 m to 0.8 m and some not more than 0.4 m at very low water. The channels over the shoals are often only 22.9 m or 27.4 m wide and the current may run at a speed of from 6 to 8 miles per hour.(19)

There are 102 shoals on the Shilka, according to a 1928 author, the depth above them reaching 107 cm during low water. On half the shoals the depth drops even as low as 90 cm during low water. During very shallow periods, the depth decreases further and sometimes freight traffic stops completely. In such cases, freight was transshipped from river to rail traffic at the landing stage of Dzhalinda, on the Amur River, 200 km from the headwaters of the Amur River.(20)

The bottom of the Shilka River is stone and in places sand, the fairway is narrow.(21)

Above Sretensk, the Shilka is about 4.3 m deep (22) but from Sretensk downstream,for about 250 miles (sic), the river has so many shallows that navigation is difficult even for small ships drawing 0.6 m to 0.9 m (23) and even interrupted sometimes.(24)

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As a rule, the depth of the Shilka River varies from 10 to 0.5 m.(25) A 1929 source (26) gives the same figures for depths on the fairway and a 1933 source states that depths reach 4 m in deeps and fall to 0.5 m in the shallow season.(27)

The Shilka River is navigable from Sretensk to the confluence of the Amur River(28) to Pokrovka(29). Sretensk, the main landing stage on the Shilka River(30) is the starting point of steamship navigation on the Amur River.(31)

The best known inlet on the Shilka River, according to a 1928 source, was Murav'yevskiy zaton, situated 4 km from Sretensk.(32)

The average duration of the navigation season on the Shilka River is 174 days at Sretensk(33) and according to another source it is only 155 days in Sretensk.(34)

Navigation on the Shilka River is sometimes also hampered by fogs (August and September)(35), when fogs are frequent, lasting until 9 or 10 a.m., and sometimes smoke from forest fires impedes navigation for days.(36)

During the low water season, steamship communications cease and at Pokrovka or Chernyayevo, according to a 1929 source, passengers were transferred to special barges towed upstream by shallow draft steamers.(27) These barges were otherwise equipped for passenger transport in the same manner as steamers.(38)

Hydrological Conditions

The Shilka belongs to the Far Eastern type of rivers, for it has a lengthy spring and summer flood season, when heavy floods occur.(39)

The Shilka is fed mainly by rainfall, which provides 79% of its water supply, while spring thaws supply only 13% and underground waters only 8% of the years' supply.(40)

Floods start usually by the end of April. The highest levels are observed during the entire warm season when rainfall is heavy, most frequently in the second half of summer, in July and August. Sometimes the maximum flood levels occur in the autumn. There is no summer low water season.(41)

Towards autumn, the levels start to drop and reach their minimum in the winter. During particularly harsh winters, the river freezes up completely to the very bottom on some sectors.(42)

The highest range of levels observed at Sretensk is 9.8 m. The spring discharge (March to June) comprises 32%, the summer discharge (July to August) 37% and the autumn discharge (September to November) - 30% of the yearly discharge. The winter discharge accounts for only 1%.(43)

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The average yearly discharge of the Shilka in the estuary is 440 cu m sec(44) and 14 cu km according to another source.(45) The highest discharge at Sretensk is 7.889 cu m/sec, with a mean discharge of 359 cu m/sec at that point. Minimum discharge reaches zero when the river freezes through.(45)

In winter, the discharge at Sretensk is 7.92 cu/m and is there 142 cu m during normal water level and up to 420 cu m during high water.(47)

The Shilka River has a sharp fall and a considerable speed of flow, the average speed being 5.5 to 6.5 km/hr.(48)

On wide quiet reaches the speed of flow is about 6.5 km/hr(49) in average level conditions. The fairway is narrow and rocky.(50)

On the shoals the speed of flow exceeds 6.5 km/hr.(51) During the low water season, the river flows with a speed of 2.6 km/hr and reaches 4.8 km/hr during average flood levels and even up to 13 km/hr during maximum levels.(52)

Ice Conditions

According to a 1933 source, the Shilka River opens up in the middle of April and freezes in the beginning of October.(53)

At Sretensk, the Shilka River opens up between 20 April and 13 May and freezes up between 9 and 28 October (seldom between 1 and 3 November).(54)

According to a 1955 source, the autumn ice movement starts on the Shilka in the beginning of the last ten days of October and lasts on the average 15 to 17 days. The ice sets in the first ten days of November.(55)

The spring debacle which usually lasts about 6 days, starts in the end of April - beginning of May and is frequently accompanied by ice jams.(56)

B. The Argun River

Description

The Argun' River, one of the two sources of the Amur River(57) takes its source in the southwestern slopes of the Bol'shoy Khingan mountain range (58) in Manchuria(59) where it is called the Khaylar River.(60).

The Khaylar River becomes the Argun' River after it receives (not far from the railroad station of Mandzhuriya), the Mutnaya protoka (channel) that links the Amur River to Lake Dalay-Nor, rich in fish and connected to Lake Buin Nor (or Buir Nor).(61)

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The Argun' River is 1,520 km long, and its drainage basin is 169.700 sq km*. A considerable part of the basin is mountainous.(62)

During high water, the waters of the Argun' River flow through the Mutnaya protoka into the nearby Lake Dalay-Nor (or Dzhalaynor), and when the water falls in the Argun' River and levels are high on Lake Dalay-Nor, the waters of the Lake flow into the Argun' River. Owing to this, the floods on the Argun' River are not as great as on the Shilka River.(63)

Lake Dalay-Nor, situated near the headwaters of the Argun', receives the Kerulen and Orchungol (or Urshun' or Ursun) rivers.(64)

According to the type of its valley and navigation qualities, the Argun' River is sometimes divided into two almost equal parts: the upper reaches (quiet), from the headwaters to Chalbuchey (or Chalbuchi) settlement, and the lower reaches, from Chalbuchey to the estuary.(65)

From the frontier of the USSR to the village of Chalbuchi, the Argun' has a flat aspect and flows in a wide valley with a broad flood bed up to 14 km wide and between low floodable banks . The river bed is very sinuous and its width varies from 30 to 200 m.(66)

The upper reaches, from the settlement of Abachaytuyevskiy (or Abagatuyevskiy of Abagatuy) (512 km) has a valley reaching 16 km in width, the banks there are low and flooded in the flood season and the flood bed is also wide. The bottom of the river is sandy and clayey and there are no stones.(67)

In these reaches the current is very slow(68) until the inflow of the Gan River(69) not exceeding 3 km per hour in the flood season. The depth of the Argun' allows vessels with a draft of 1.6 m, the river bed being 75 m wide at low water.(70)

Another source states that the Argun' is 30 to 100 m wide in the above reaches and has a muddy bottom.(71) The river is there extremely sinuous and discharges not enough water.(72)

From the estuary of the Gan River (also called Gan'khe) to Tsurukhaytuy, the Argun' is reported to be 100 to 140 m wide, the depths ranging from 1 - 8 m, and the bottom being mostly sandy.(73)

From Tsurukhaytuy, to Stanitsa Argun'skaya, the Argun' is 140 to 200 m wide, its bottom is sandy and pebbly and there are numerous shoals.(74)

*According to a 1950 source, the Argun' River is 1,275 km long and the area of its basin is 231,600 km sq (BSE, v. 2, 1950, p. 642, c. 1). Earlier sources set the total length of the Argun' (including the Khaylar River) at about 1,580 km (SSE, v. 1, 1929, p. 130) and also state that the Argun' is about 1,000 km long with widths varying from 32 to 320 m. The depths vary from 0.5 to 6.4 m. (Burskiy, p. 125)

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Below the Stanitsa Argun'skaya, the Argun' is 200 to 300 m wide, the depths varying from 1 - 6 m. The banks are hemmed in by mountains, the bottom is rocky. In shallow places, the rocks form ridges ("boytsy"). The ridges lying between the settlements of Muchukanskiy (Muchikan) and Zhegdochinskiy (Zhegdechi) are particularly dangerous. Because of these ridges, steamers can sail up the Argun' for only 54 km to the settlement of Zhegdochinskiy. Floating is carried out along the entire lower reaches, mainly from stanitsa Argun'skaya and consists mostly of grain. Floating and navigation by steamers can increase only after elimination of the rapids.(75)

In the lower reaches of the Argun' River, from Chalbuchey to the estuary the valley is narrow, the banks are sheer, the bottom of the river is rocky.(76) The shoals are shallow and numerous (more than 100), the depth on some (about 30) falling to 70 cm.(77)

The average fall of the river is very great, so that the current on some shoals, for instance the "Nepobedimyy", reaches 9.5 km/hr.(78) The river bed is sinuous and frequently breaks up into channels.(79)

In its lower reaches, the Argun' is up to 300 m wide.(80)

The Argun' has almost no tributaries until the outspurs of the Nerchinskiy Khrebet (range).(81)

The main tributaries of the Argun' River are to the right the Gan (or Gen'khe or Gan'khe) and Bystraya rivers, to the left the Gazimur river, (82)

Many of the tributaries, especially in the upper reaches, have an abrupt fall and rocky, rapid-ridden beds.(83)

The water discharge of the Argun' increases after the confluence of the numerous tributaries flowing from the Nerchinskiy range. On this sector, the main left bank frequently approaches the river in abrupt cliffs, with a softly inclined right bank.(84)

According to one source, the Argun' river is navigable from the settlement of Abagatuyevskiy to its estuary (965 km)(85) but according to another source, it is navigable from Abagatuyevskiy settlement to the village of Ust-Strelochnoye (898 km)(86). The navigation season lasts 165 days on the average.(87)

The frontier of China and the USSR follows the course of the Argun' for 944 km.(88)

Although until 1928, there was no permanent steamship communication on the Argun' River and the vessels entering the Argun' from the Amur almost never sailed further upstream than Olochinskaya (or Olochi) village, yet surveys established the possibility of small draft steamship communications on the Argun' above Olochinskaya and on the Khaylar River up to the estuary of the Emin-gol River.(89)

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Economically, the Argun' River is valuable as a route through which exchange of goods between the trans-Baykal and the Amur areas and Northern Manchuria is carried out.(90)

Hydrological Conditions

The Argun' River belongs to the Far Eastern type of rivers(91), having, like all other rivers of the Amur Basin, an insignificant spring flood season due to melting snows and being fed mainly by rainfall in the warm season of the year.(92)

Snows and underground waters play therefore a much lesser role in its feeding. The highest levels are observed during the entire flood season from April to October, but most frequently in May or in August. Maximum levels sometimes occur even in autumn. The greatest yearly range of level does not exceed 4 m. Minimum levels are observed almost during the entire year but more frequently in the winter period before the beginning of the flood season. The average yearly discharge of the Argun' in its estuary is of 400 cu m/sec.(93)

Ice Conditions

The autumn ice movement on the Argun' River is observed in the middle of the third ten day period of October and lasts on the average about 2 weeks. The ice sets in the beginning of November(94), around 3 November according to another source(95). The river opens up in the beginning of May(96), around 9 May according to another source(97). The spring debacle is brief, 4 to 7 days on the average, and is sometimes accompanied by ice jams.(98)

C. The Zeya River

Description

The Zeya River is the largest tributary of the Amur River. It is 1,208 km long(99)* and its drainage basin has an area of 233,000 sq km. (100)

The Zeya River takes its source from the southern slopes of the Stanovoy Khrebet (Range) at an elevation of 2,480 m.(101)

The northern, upper, reaches of the Zeya River basin lie in a mountain area with elevations reaching 2,000 m, heavily crossed with valleys formed by the numerous tributaries of the Zeya.(102)

The Zeya has there a swift current and numerous shoals(103) and its narrow valley is hemmed in by high mountains.(104)

*According to other sources the Zeya River is 1,232 km long (BSE, v.17, 1952, p. 75; Liverovskiy & Kolesnikov, p. 110) and 1,200 km long (SSE, v. 1, 1929, p. 97) and has a drainage basin of 230,000 sq km (BSE, v. 17, 1952, p. 75) and 229, 470 km sq (Liverovskiy and Kolesnikov, p. 110).

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The upper, mountainous part of the Zeya River basin is separated from the middle, hilly reaches, by the Tukuringra and Dzhagdy mountain ranges.(105)

To the estuary of the Tok River, a right bank tributary, the Zeya River flows in a single bed, and then breaks up into channels.(106)

After receiving the Kupuri (left bank), Tok and Argu (or Argi) (left bank) tributaries,(107) and some 235 km from its headwaters, the Zeya River flows into the Upper-Zeya depression [some authors call it plateau](108) situated between the Stanovoy and Dzhagdy mountain ranges. The valley widens, the river breaks up into channels(109), its width ranges from 200 to 300 m(110) and the current slows down.(111)

In the area of the Upper-Zeya plateau, the Zeya flows through a wide forest-covered valley, forming numerous bends, and its slower flow adds to the impression of an almost level, land stream.(112)

After the confluence of the Mongda River, the Zeya enters a narrow valley and flows in a single bed above Bomnak village, forming only small islands near the estuaries of the Ulunga and Ura rivers.(113)

At Bomnak, the Zeya River again flows in a single bed(114) through a narrow deep canyon(115) called the Zeyskiye Vorota (Zeya Gates)(116) across the Tukuringra - Dzhagdy ridge and has a very swift current.(117)

The sector of the Zeya River, from Bomnakskiy sklad to Zeya town, is a mountain stream, the bottom is stony, the river bed is narrow, there are 22 shoals on which depths fallto 60 cm.(118)

From the area where the Zeya crosses the Tukuringra range, and until the town of Zeya, the Zeya River remains a mountain stream.(119)

After the town of Zeya, the Zeya River emerges into the Zeya-Bureya plain(120) and flows in a rocky bed to the confluence of the Selemdzha River.(121)

The sector of the Zeya River, from Zeya town to the estuary of the Selemdzha River is more suitable for navigation, but there are numerous(122) (15) shoals strewn with rocks. The speed of the current reaches 10 km per hour on the shoals, the depth on the shoals falls to 45 cm. The width of the river ranges from 210 to 320 m(123), or 200 to 500 m according to another source(124) The narrow valley causes great variations of levels during the floods, up to 4.3 m in 24 hours.(125)

After the confluence of the Selemdzha River, the largest tributary of the Zeya River, on the 278km long lower reaches of the Zeya River, the valley and river bed of the Zeya widen considerably,(126) the river banks become low, the speed of the current decreases(127), and the river has a wide flood bed reaching 5 km in width.(128) Islands appear in the river which splits up into channels.(129)

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In this sector of the Zeya River, from the confluence of the Selemdzha River, the bottom is sandy, the banks are friable, and this causes changes in the shoals of which there were 17 according to a 1928 source, their depth falling during low water to 60 cm. The river gradually widens and reaches 1 to 2 km in width.(130)

The Zeya flows into the Amur River on its left bank, 1949 km from the estuary.(131)

The main tributaries of the Zeya River are to the right, the Bryanta, Gilyuy and Urkan rivers; to the left the Dep, Selemdzha and Tom' rivers.(132)

The Selemdzha River, the largest left bank tributary of the Zeya River, has the same type of valley, distribution of slopes and speeds of current as the Zeya. The Tok, Bryanta, Gilyuy and other tributaries of the Zeya, flowing in its upper reaches, are mountain streams along their whole course.(133)

The navigation season on the Zeya River lasts about 160-170 days, the ice setting in the middle of October and breaking up in the end of April.(134)

Regular steamship navigation takes place on the Zeya River to the town of Zeya. During high water, steamers sail upstream to the port of Bomnak(135) and up the Selemdzha River to the port of Ekimchan.(136)

Timber predominates in the freight traffic of the Zeya River (75-80%) other freight includes grain, coal, petroleum products and other cargo.(137)

Besides Blagoveshchensk, situated at the confluence of the Zeya River and the Amur River, and the largest port on the Zeya, other important landing stages are Surazhevka (Svobodnyy), Ust'-Tygda, Uspenovka and Zeya.(138)

Note on Zeya

The town of Zeya, the population of which according to a 1926 census, was at that time of 4,342 souls(139) is located 120 km northeast of the railroad station of Tygda, on the Trans-Siberian trunkline. Zeya has water transport servicing facilities and in 1952 it also had a secondary and 6 primary schools, a House of Culture, a cinema, 2 libraries. Mining, hunting for pelts, lumber processing enterprises are developed in the rayon and grain crops are grown there.(140)

Hydrological Conditions

The Zeya River belongs to the Far Eastern(141) type of rivers and is fed mainly by rainfall(142) which accounts for 69%, while thawing snows contribute only 26% and underground waters 5% of the yearly flow.(143)

The flood season starts in the end of April and lasts until October.(144)

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The highest levels and discharges are observed from May to October inclusively (in the upper reaches mostly in May and August, in the lower reaches mostly in June and July.(145)

The main part of the flood season due to heavy rainfall in the summer causes numerous and intensive, frequently overlapping floods.(146)

The flood levels due to rainfall observed from June to August are higher than the maximum spring flood levels.(147) The mountainous type of a considerable part of the Zeya River basin, the presence of permafrost(148), and the particular structure of the Zeya river network result in floods of a catastrophic nature causing enormous damage.(149)

The high floods on the Zeya River also have a noticeable effect on the water level of the Amur River where inundations are often caused by the Zeya River floods.(150)

A certain increase of the autumn discharge downstream is caused by more intensive autumn rain floods in the lower part of the basin. The indices of variation of the yearly flow are 0.35 at the village of Bomnak and 0.31 near the town of Zeya.(151)

The average yearly discharge of the Zeya River at its estuary (near Blagoveshchensk) is 1,800 cu m/sec.(152)

According to another source, the Zeya River discharges yearly 57 cu km of water(153) and the average yearly discharge flows at a rate of 2,300 cu m/sec.(154)

Minimum levels and discharges are observed in winter, more frequently before the beginning of the flood season.(155)

On the Zeya River, during low water the speed of flow is 5.3 km per hour, during average flood level it is 6.5 km per hour, and during the highest flood level it reaches 7.5 km per hour.(156)

Ice Conditions

Great formations of inter-water ice and sludge are characteristic for the Zeya River and the accumulations of the latter causes large accumulations of porous ice and sludge on many sectors.(157)

The autumn ice movement starts earliest in the upper part of the river and gradually spreads downstream. At the village of Dambuki it starts on the average on 19 October and at Blagoveshchensk at the end of October. The autumn ice movement varies in duration from 9 to 19 days, reaching great proportions in the lower reaches. In the upper part of the river, the ice sets at the end of October or beginning of November, and in the lower reaches, in the middle of November.(158) According to another source, the ice on the Zeya River sets in the middle of October.(159)

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The basin of the upper and middle Zeya is situated in an area where the winter is extremely harsh, therefore the winter hydrological conditions of the river are characterized by a widespread existence of bottom ice(160) and overlayers of ice(161) and ice fields.(162)

On some sectors the Zeya freezes through completely in occasional years.(163)

The river begins to open up starting from the lower reaches (end of April) and ending in the upper reaches (first ten days of May). The spring debacle lasts about 5 days in the upper reaches and as much as 10-12 days in the lower reaches. The spring debacle is accompanied by ice jams.(164)

D. The Bureya River

Description

The Bureya River is the second largest left bank tributary of the Amur River flowing from the Yam-Alin' and Dusse-Alin' mountains and the western slopes of the Bureya range where it takes its source in two branches, the left and the right Bureya.(165)

The Bureya River is 623 km long with a drainage basin 69.790 sq km in area.(166) According to another source, it is 716 km long.(167)

The upper reaches of the Bureya River flow through deep rocky canyons, forming numerous rapids(168) and are about 40 to 80 m wide.(169)

After the confluence of the Mal'malta River, the Bureya emerges from the canyons(170), the river valley widens gradually, reaching 5 km in places(171) until the estuary of the Andyn'ya River.(172) and breaks up into numerous channels, forming islands.(173)

Further downstream the river changes again, the valley narrows and until the village of Paykan the Bureya River flows between forest covered rocky banks.(174)

In these middle reaches of the Bureya River, until the confluence of the Niman River, a right bank tributary(175), the Bureya River bed is cluttered with old tree stumps and dead wood that form heavy barriers on the shoals.(176

Below the confluence of the Niman River, the Bureya again loses the aspect of a mountain river and the current slows down, but further downstream, approaching Chekunda, stone shoals and rapids become more frequent and present considerable obstacles to navigation during low water.(177)

Below Chekunda, the Bureya River valley narrows considerably, the rocks of the valley approach the river bed which becomes rocky and sinuous. The width of the Bureya varies here from 120 to 180 m.(178)

Down to 140 km from its estuary the Bureya flows between mountain banks, with sharp bends, shoals and even rapids that are dangerous in low water.

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The water rises as much as 10 m during floods and the speed of the current reaches 10 km per hour.(179) Another source says it reaches 18 km per hour, thus hampering river traffic.(180)

In the lower reaches of the Buryea River, the mountains recede from the river(181), the river valley widens to 4 km(182). The flood bed reaches 5 km in width according to another source(183), and the right bank has the aspect of a meadow lowland with oak groves. The river is no longer a mountain stream(184) Rocky rapids are replaced by shoals and quiet reaches, islands appear in the river bed(185) and small shingles and sand form the bottom of the river bed which breaks up into channels.(186) The shoals have a minimum depth of 60 cm.(187)

For the last 140 km of its course to the Amur River, the Bureya River flows quietly at a speed of 5 to 8 km per hour in a wide fertile plain(188) and reaches 600 m in width.(189) It empties into the Amur in two channels.(190)

According to a 1929 source, the Bureya River is navigable for 480 km and floatable for 570 km.(191) According to another source, boats can sail up the Bureya until Umal'tinskiy sklad (storage place.(192) Another source states that the lower reaches of the Bureya River are navigable for 200 km and during high water for 300 km.(193) During the flood season steamers of the "Tayezhnik" type were reported in 1928 to be able to reach the estuary of the Niman River.(194) The upper reaches (for 200 km) are inacessible even to small craft, the river being there a swift mountain stream.(195)

Hydrological Conditions

The Bureya belongs to the type of rivers fed mainly by rainfall. Rainfall accounts for about 72%, spring thaw for 21% and underground feeding for 7% of its yearly water source.(196)

The hydrological conditions of the Bureya are similar to those of the Zeya and characterized by a lengthy flood season in the warm period of the year and numerous rain floods. The highest water level is 11 m. Highest levels and greatest discharges occur in different months of the flood season, mostly in May and July. The lowest levels occur in winter, usually before the beginning of the flood season.(197)

NOTE: The port of Bureya is a settlement built in 1912 at the intersection of the Ussuri railroad and the river, when the railroad bridge was built to span the Bureya (SSE, v. 1, 1929, p. 401)

In 1926 the population of Bureya was 1,542 souls. The main occupation was at that time timber processing and agriculture. There was a sawmill. In 1926 the place was listed as a resettlers' center. A 15 km railroad branch led to the Kivdinskiye coal mines. (SSE, v. 1, 1929, p. 401)

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The average yearly discharge of the river in the estuary is 950 cu m/sec. The maximum discharge near the village of Nikolayevka is 15,000 cu m/sec while the minimum discharge is 0.9 cu m/sec and the average yearly discharge is 923 cu m/sec. (198)

The winter discharge is only 1%, the spring discharge - 35%, the summer discharge 39% and the autumn discharge 25% of the yearly total.(199)

Ice Conditions

The autumn ice movement starts on the Bureya at the end of October and lasts for about 9 days on the average. The ice sets in the first ten days of November. The river opens up in the beginning of May and the average duration of the spring debacle is 9 days. (200)

E. The Sungari River

Description

The Sungari River is 2,110 km long and the area of its basin is 531,400 km^2. (201)

The entire basin of the Sungari (Sung-hua-chiang) river lies beyond the boundaries of the USSR. (202) It takes its source on the Ch'ang-pai-shan Plateau from where its headwaters flow in 2 streams, the Er-Tao-chiang (right stream) and the T'ou-Tao-chiang (left stream). (203)

In its upper course, the Sungari traverses the Eastern - Manchurian Mountains, in the middle reaches it flows through the Sun-liao plain, and in its lower course, through the Amur - Sungari lowland.(204)

The Sungari is a plain-type river and flows through its whole extent in a wide valley, the upper reaches having a flood bed up to 5 km wide. The river breaks up into channels, forming islands.(205)

When leaving the mountains, the Sungari is barred by the large dam of the Feng-man Hydroelectric Power Plant, above which the valley is flooded for 150 km by the waters of the large reservoir.(206)

The Sungari is navigable starting from Chi-lin (Girin).(207) Between the Eastern-Manchurian Mountains and the Malyy Khingan navigation is complicated by shoals (San'shin shoal and others).(208) The worst shoal "perekat" is about 6 or 7 miles below Sun Sing, (or San-hsing or I-lan) a Chinese town with about 12,000 inhabitants, and in some years there is never more than a depth of 0^{m}45 on the rocky bar, but in ordinary years vessels drawing 1^{m}1 can reach Kharbin, the chief commercial center of Northern Manchuria, which, in 1933, had 404,797 inhabitants.(209)

The width of the Sungari River above Girin, 160 km from the headwaters, is over 213 m, and near the estuary it is up to 2.6 km. The average depth may be established at about 3.65 m, but on the numerous shoals, the depths do not exceed 1.52 m, 0.91 - 0.61 m in the upper course, 0.91 in the middle reaches and 1.52 m in the lower reaches. There are numerous fords.(210)

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Downstream from Kharbin, to San-hsing, the Sungari flows in several channels along a steppe valley 3 to 20 km wide, between banks 6 to 10 m above water level. The river reaches 500 to 1000 m in width.(211)

In its lower reaches the Sungari flows through a wide steppe, between low banks (1 to 3 m), in an unstable, easily washed away bed.(212)

The Sungari flows into the Amur on its right bank, 1,268 km from the estuary of the Amur River.(213)

The rivers of the Sungari basin carry a great volume of suspended matter to the Amur and the Sea of Okhotsk. In the summer, the clayey sediments carried by the Sungari give it a turbid brown color. The volume of the sediments increases particularly during the summer downpours that erode the soil.(214)

After the confluence of the Sungari River with the Amur River, the yellow turbid waters of the Sungari flow for a long distance parallel, without merging, with the clear waters of the Amur River.(215)

The Sungari River is a very important waterway for Northern Manchuria and the valley of its middle and lower course is thickly settled. The cities of Tsinlin (Kirin), Kharbin, Tsyamusi are the main populated places along the river.(216)

The town of Tun'syanchay (Lakhasusu) is situated near the confluence of the Sungari River with the Amur River.(217)

Hydrological Conditions

The Sungari belongs to the Far Eastern type of rivers fed mainly by rainfall. The average yearly discharge is 1,500 cu m/sec in the estuary. The maximum discharge at Kharbin is 15,000 cu m/sec.(218) The highest level is reached in summer.(219)

Ice Conditions

The Sungari River is covered with ice from November to mid-April.(220) It freezes up at Kharbin in the middle of November and opens up in the beginning of April.(221)

As the Sungari flows from south to north, the warmer waters of the Sungari flowing northward cause an earlier spring debacle and a later date of freezing of the Amur River downstream from its confluence with the Sungari.(222)

F. The Ussuri River

Description

The Ussuri River is 588 km long(223) and the area of its drainage basin is 187,000 sq km.(224)

It is one of the principal right bank tributaries of the Amur River and is formed by the confluence of the Ulakhe and Daubikhe rivers, typical mountain streams that take their source in the southwestern slopes of

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the Sikhote - Alin' mountain range in the Primorskiy Kray.(225)

After the confluence of the Ulakhe and Daubikhe Rivers that form the Ussuri proper, the latter flows to the Amur River in a plain 3 km wide. There are numerous bends, channels, and groups of islands in the river bed. Along most of the course of the Ussuri River, mountains come close to the right bank of the river valley or rise some 15-20 km away. On the left bank there occur frequent grass-covered marshy valleys,(226)

The Ussuri flows into the Amur River, on its left bank, 988 km from the estuary of the latter.(227)*

Along its whole extent the Ussuri River flows in a wide valley, through low floodable banks and hills approach the water only occasionally.(228)

In the upper and middle course, the bottom of the valley is of a meadow character, in the lower reaches, because of frequent flooding, it is very marshy.(229)

Until the confluence of its left bank tributary, the Sungacha River, the Ussuri flows in a single bed, and further downstream it breaks up into channels.(230)

The frequent and intensive floods carry a great volume of sediments, and this helps the formation of numerous shoals, especially in the upper reaches.(231)

In the upper reaches, the Ussuri river bed is about 40 m wide, near the estuary 2,000 m wide. The river bed, composed of easily washed away soils (sand and muds) is unstable.(232)

The hydrographic network of the Ussuri River basin is very irregular owing to the difference of climatic conditions and the character of the left bank and the right bank of the basin. The mountainous right bank area of the basin has a well developed hydrographic network. The largest right bank tributaries of the Ussuri River(233) are the Ulakhe and Daubikhe Rivers, its headwaters, then the Iman with its affluents the Armu and Tudo-Vaku rivers, the Bikin River with the Alchan(234) and the Khor River, all flowing from the western slopes of the Sikhote-Alin mountain range. The upper reaches of all these rivers are mountain streams(235) and these rivers are navigable by boat and timber is floatable.(236)

The river network of the left bank area of the Ussuri River basin is far less developed than that of the right bank. As a result of the level terrain, the rivers have shallow, flat and frequently marshy valleys and a slow current. Among the major left bank tributaries are the Sungacha River, flowing from Lake Khanka, and the Mulinkhe and Naolikhe rivers, flowing within the boundaries of the Peoples' Republic of China.(237)

*The length of the Ussuri varies according to sources. It is 800 km long according to a 1936 source (BSE, v. 56, 1936, p. 348); 900 km long according to a 1947 source (Primorskiy Kray, 1947, p. 20), and 590 km according to a 1953 source (Ocherki Akad., p. 232)

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The speed of the current on the Ussuri River is 1 m per sec, the minimum depth is 1.5 m. There are several shoals, but these appear only in low water in the middle of July.(238)

The Ussuri River is about 2 km wide in its lower reaches (Murzayev, p..219) and at its confluence with Amur River.(239) After the estuary of the Sungari River, the Ussuri becomes a frontier stream flowing in a wide bed and breaking up into several channels that cause numerous low islands covered with forests.(240)

Some 45 km above Khabarovsk and the estuary of the Ussuri River, the latter stream is linked to the Amur River by the Kazakevichevskaya protoka or channel.(241)

According to some sources, the Ussuri River is navigable from its estuary upstream to the confluence of the Sungacha River, its left bank tributary(242), together with which it forms a waterway 750 km long to Lake Khanka.(243)

According to a later source, the Ussuri River is navigable from the Iman River to the estuary(244) and a 1936 source mentions steamer communications from Iman to Khabarovsk (on the Amur River.)(245)

Hydrological Conditions

The Ussuri River belongs to the Far Eastern type of rivers(246) and is fed mainly by rainfall.(247)

Rainfall accounts for 66%, melting snows account for 19% and underground waters for 15% of the yearly water sources of the Ussuri River.(248)

The highest levels and greatest discharge are observed most frequently in the first half of the flood season, in April and in May, much more seldom in August and only in occasional years in autumn, in October.(249)*

The lowest levels occur in the period extending from August to March inclusively, being most frequent in the end of winter, before the beginning of the spring flood season.(250)

There is no summer low water season, so that there never are any minimum levels from April to July inclusively.(251)

The yearly range of levels does not exceed 6 m.(252)

The average yearly discharge of the Ussuri in the estuary is of about 2,000 cu m/sec (10.7 l/sec-km). The yearly discharge of the river is of 63 cu km.(253)

*The small snowfall in the area in winter causes an inconsiderable spring high water season, but the waters rise heavily towards the end of summer, in August, when inundations are frequent. Heavy rains caused by the monsoon climate of the area fall during that time of the year and in some years (1927) the river widens to 20 km. The main problem on the river is the struggle with the floods. (BSE, v. 56, 1936, p. 349).

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Ice Conditions

The autumn ice movement starts first in the lower reaches of the Ussuri, in the beginning of November. At the end of the first 10 days of November ice movement begins in the upper reaches where it has an interrupted character and lasts about 22 days. Further downstream the duration of the ice movement decreases and in the lower reaches it lasts on the average about 10 to 12 days.(254)

The river freezes up in the upper reaches in the beginning of December, in the lower reaches in the middle of November.(255)

The Ussuri is covered with ice in the middle of November and opens up in the second half of April.(256)

The Ussuri starts in its spring debacle in the upper reaches in the first ten days of April and in the lower reaches, the Ussuri opens up in the second ten-day period of April. The spring debacle on the various sectors of the river usually lasts from 3 to 7 days.(257)

G. The Amgun' River

Description

The Amgun' River, a left bank tributary of the Amur River(258) is the largest tributary of the lower reaches of the Amur River(259) and flows through the Amgun' lowland which comprises the lower reaches of the Amur River and is a wide, very marshy plain, formed mainly by lake and river sediments and covered with forests, damp meadows and shrubs. The river beds are extremely sinuous and there are numerous lakes and channels(260) particularly in the estuary part.(261) The plain is flooded during the high water season and the river forms numerous large islands and channels.(262) The average elevation is 25-30 m.(263)

The Amgun' River is 665 km long with a drainage basin of 54.900 sq km in area.(264)*

The Amgun" takes its source in the eastern slopes of the Bureya mountain range(265) and is formed by the confluence of the Kholuk and Ayakit rivers that flow from the Upper-Amgun' plateau. Both streams are mountain rivers and after their confluence the Amgun' maintain a swift current and in shallow places the river bed is obstructed by tree stumps and dead wood.(266)

*Other sources state that the Amgun' River is 856 km long (BSE, v. 2, 1950, p. 220, c. 2) and Liverovskiy & Kolesnikov, p. 112) and has a drainage basin or about 60,000 km sq (BSE, v. 2, 1950, p. 220, c.2) and 59,970 sq km (Liverovskiy and Kolesnikov, p. 112). It is 825 km long according to Artamonov (p. 231) and 800 km according to SSE, v. 1, 1929, p. 94)

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As the Amgun' flows on, the speed of the flow decreases (267) to about 5 km per hour in the navigable reaches.(268)

In contradistinction to other tributaries of the Amur River, the Amgun' is a plain-type river almost along its entire course. The river flows mainly in a wide valley, between low banks in an unstable bed.(269)

In its lower reaches, the Amgun' River flows through flat lands of the north western Amur region, has a wide valley, a slow current and a shifting river bed.(270)

Rapids and rocky shoals, according to a recent source, appear only in one point, in the lower reaches, from the estuary of the Del'kan River to the village of Udinskoye (271) but an earlier source(1928), mentions the Krasnoyarskiy shoal (among others) that is 60 cm deep and lies about halfway in the middle reaches of the Amgun' River.(272)

The Amgun' River flows into the Amur River 99 km upstream from Nikolayevsk (273) and 105 km from the estuary.(274)

According to a 1926 source, the navigable reaches of the Amgun' River extend for 430 km.(275) A 1929 source states that the navigable reaches of the Amgun' River extend for almost 400 km, and that the floatable reaches extend for 530 km (276), but another source states that the floatable sector extends for 180 km above Kerbi.(276a) A 1950 source affirms that the Amgun' River is navigable almost along its entire course of 956 km (**sic**), except for the headwaters.(277)

According to a 1928 source, steamers actually sail from Kerbi to Mikhaylovskaya all through the navigation season.(278)

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Hydrological Conditions

The Amgun' River is fed mainly by rainfall. In the estuary of the Kerbi River, the discharge of the rain waters of the Amgun' comprises 68%, that of snow thaw 25% and of underground water - 7% of the yearly flow.(279)

In correlation with these particularities, and because of the character of the hydrological conditions, the Amgun' River belongs to the rivers of the Far Eastern type, with a lengthy summer flood season, consisting of a series of floods, merging with one another.(280)

The flood season usually starts by the end of April and terminates in October. The highest levels are observed in July - August and sometimes in September. Minimum levels occur most frequently in winter, before the beginning of the flood season - in March, and sometimes in the autumn, in September.(281)

The greatest yearly range of levels reaches 6.2 m. The average yearly discharge of water in the estuary is 600 cu m/sec.(282)

Ice Conditions

The autumn ice movement on the Amgun' River starts by the end of October or beginning of November and lasts on the average about 5 days. The river freezes up in the beginning of November, and opens up in the beginning of May. The spring debacle passes quietly and lasts on the average about 6 days.(283)

H. Smaller Tributaries of the Amur

The Amazar, (Bol'shaya Gorbitsa), in Mongol-Kerbechi, is a left bank tributary of the Amur River and flows into it 40 km below the confluence of the Shilka and Argun' rivers. The Amazar takes its source in Shilkinskiy Khrebet and is 250 km long according to a 1929 source.(284)

The Amazar railroad settlement on the Amazar River had a population of 746 souls in 1926. A considerable number of gold mines exist in the area.(285)

The Albazhikha River (Emur-Albachi or Amuerkhe) takes its source in the slopes of the Bol'shoy Khingan mountain range. The river is 160 km long, and is a right bank tributary of the Amur River. Albazin (Or Albazino) is situated at the confluence with the Amur River.(286)

The Kumara River, an affluent of the Amur River, takes its source in the outspurs of the Il'khuri -Alin' Range and is 850 km long. It has a minimum depth of 2 m in the last 260 km of its course. In 1928 its navigation qualities had not yet been surveyed.(287)

The Bireya takes its source in the Nyukzha range and flows into the Amur below Kumara. The Bireya is about 200 km long, the lower reaches are floatable and are inhabited.(288)

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The Arkhara River is a left bank tributary of the Amur River, flowing in it 40 km downstream from the Bureya. The River also called Khara, Khar, or Ar-Bira, starts in the western outspurs of the Bureya mountains and is about 200 km long.(289) The population of Arkhara, a town situated on the Ilga River, 6 km from Arkhara River, was 2,147 souls according to a 1926 census.(290)

The Bidzhan River is a left bank tributary of the Amur River, and flows into it 30 km upstream from the confluence of the Sungari River with the Amur. The Bidzhan is 300 km long. It takes its source in the outspurs of the Bureya Range. The great number of shoals hinders the downstream floating of good building timber growing on the banks of the Bidzhan.(291)

The Tunguska River, another left bank tributary of the Amur, is 802 km long and has a drainage basin of 35.760 sq km. It flows from the outspurs of the Malyy Khingan range and is formed by the confluence of the Urmi or Kur (Kura) rivers and discharges into the Amur River 16 km below Khabarovsk.(292)

According to an earlier source the Tunguska was not a tributary until recently, but an arm of the Amur River, for this river does not have its own valley, flows parallel to the Amur and during the flood season, the upper reaches of the Tunguska merge with the Amur River.(293)

The Bol'shaya Bira (Kirmi in Tungus) is a left bank tributary of the Amur River into which it empties 80 km below the estuary of the Sungari River. The Bira is over 250 km long. It takes its source in the southwestern part of the Bureya range and is rich in timber. Floating is possible for 140 km and navigation for small craft for 70 km. Gold bearing areas exist in the Bira River system.(294)

The Gorin (or Goryun) River takes its source in the eastern slopes of the Bureya range and falls into the Amur on its left bank 670 km below Komsomol'sk. It is 420 km long and has a basin area of 20,46 sq km. In the upper reaches (262 km from the estuary), the Gorin is a mountain stream with a high speed of flow.(295)

Below the estuary of the Kuin river, flowing from Lake Evoron, the character of the river changes sharply and its river bed widens. Further downstream the Gorin river narrows again and the banks become high and mountainous. In its lower reaches the Gorin widens again and flows in a wide flood bed. Summer floods on the Gorin River form with great rapidity and decrease with equal rapidity.(2 to 4 days).(296)

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AF FORM 112—PART II
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Chapter IV

Reference Notes

1) BSE, v. 2, 1926, p. 558
2) BSE, v. 2, 1950, p. 307
3) BSE, v. 62, 1933, p. 390
4) Ocherki Akad. p. 230; also BSE, v. 62, 1933, p. 390
5) Ocherki Akad. p. 230
6) BSE, v. 62, 1933, p. 390
7) Turist, p. 84
8) Ibid.
9) BNG, p. 466
10) BSE, v. 52, 1947, p. 514
11) Artamonov, p. 226
12) BSE, v. 52, 1947, p. 514
13) SSE, v. 1, 1929, p. 720
14) BSE, v. 52, 1947, p. 514
15) BSE, v. 62, 1933, p. 390
16) Artamonov, p. 226
17) BSE, v. 2, 1926, p. 558
18) Turist, p. 84
19) BNG, p. 466
20) Artamonov, p. 226
21) Ibid.
22) Ibid.
23) BNG, p. 466
24) BSE, v. 62, 1933, p. 390
25) Turist, p. 84

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26) SSE, v. 1, 1929, p. 96

27) BSE, v. 62, 1933, p. 390

28) BSE, v. 2, 1926, p. 558

29) L.K. Davydov, v. II, 1955, p. 502

30) BSE, v. 62, 1933, p. 390

31) SSE, v. 1, 1929, p. 98

32) Artamonov, p. 226

33) Srtamonov, p. 226

34) SSE, v. 1, 1929, p. 98

35) BSE, v. 62, 1933, p. 390

36) BNG, p. 466

37) SSE, v. 1, 1929, p. 96

38) Turist, p. 85

39) L.K. Davydov, v. II, 1955, p. 502; also Ocherki Akad., p. 230

40) Ibid.

41) Ibid.

42) Ibid.

43) Ibid.

44) Ibid.

45) Ocherki Akad., p. 230

46) L.K. Davydov, v. II, 1955, p. 502

47) Ocherki Akad., p. 230

48) SSE, v. 1, 1929, p. 98

49) Artamonov, p. 224; also BSE, v. 2, 1926, p. 558

50) BSE, v. 2, 1926, p. 558

51) Artamonov, p. 226

52) Ibid., p. 224

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53) BSE, v. 62, 1933, p. 390

54) Artamonov, p. 223

55) L.K. Davydov, v. II, 1955, p. 502

56) Ibid.

57) BSE, v. 2, 1950, p. 642

58) Ocherki Akad., p. 230

59) BSE, v. 2, 1926, p. 558

60) Ocherki Akad., p. 230

61) SSE, v. 1, 1929, p. 130

62) Ocherki Akad., p. 230; also L.K. Davydov, v. II, 1955, p. 503

63) SSE, v. 1, 1929, p. 130; also Ocherki Akad., p. 230

64) L.K. Davydov, v. II, 1955, p. 503

65) Artamonov, p. 225

66) L.K. Davydov, v. II, 1955, p. 503

67) Artamonov, p. 225

68) Ibid.

69) SSE, v. 1, 1929, p. 130

70) Artamonov, p. 225

71) SSE, v. 1, 1929, p. 130

72) Artamonov, p. 225

73) SSE, v. 1, 1929, p. 130

74) Ibid.

75) Ibid.

76) Artamonov, p. 225; also L,K. Davydov, v. II, 1955, p. 503; also Ocherki Akad., p. 230

77) Artamonov, p. 225

78) Ibid.

79) L.K. Davydov, v. II, 1955, p. 503

80) Ibid.

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81) Ibid.

82) BSE, v. 2, 1950, p. 642; also Ocherki Akad., p. 230; also L.K. Davydov, v. II, 1955, p. 503

83) Ocherki Akad., p. 230

84) Ibid.

85) BSE, v. 2, 1926, p. 558

86) Burskiy, p. 185 and Artamonov, p. 225

87) Artamonov, p. 225

88) BSE, v. 2, 1950, p. 642

89) Burskiy, p. 137

90) Ibid.

91) L.K. Davydov, v. II, 1955, p. 503

92) Ocherki Akad., p. 230; also L.K. Davydov, v. II, 1955, p. 503

93) L.K. Davydov, v. II, 1955, p. 503

94) Ibid.

95) Artamonov, p. 225

96) L.K. Davydov, v. II, 1955, p. 503

97) Artamonov, p. 225

98) L.K. Davydov, v. II, 1955, p. 503

99) L.K. Davydov, v. II, 1955, p. 504

100) Ocherki Akad., p. 230; L.K. Davydov, v. II, 1955, p. 504

101) BSE, v. 17, 1952, p. 75

102) Ocherki Akad., p. 230

103) Liver. & Kol. pp. 110-111

104) Ocherki Akad., p. 231; also L.K. Davydov, v. II, 1955, p. 504

105) Ocherki Akad., p. 230

106) L.K. Davydov, v. II, 1955, p. 504

107) Ibid.

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108) Ocherki Akad., p. 231; also BSE, v. 17, 1952, p. 75; also Liver & Kol., p. 110-111

109) BSE, v. 17, 1952, p. 75

110) L.K. Davydov, v. II, 1955, p. 504

111) Liver. & Kol. p. 110-111

112) Ocherki Akad., p. 231

113) L.K. Davydov, v. 11, 1955, p. 505

114) BSE, v. 17, 1952, p. 75

115) Liver. & Kol., p. 111

116) L.K. Davydov, v. II, 1955, p. 505

117) Liver. & Kol., p. 111

118) Artamonov, p. 227

119) Ocherki Akad., p. 231

120) BSE, v. 17, 1952, p. 75

121) L.K. Davydov, v. II, 1955, p. 505

122) BSE, v. 17, 1952, p. 75; also L.K. Davydov, v. II, 1955, p. 505

123) Artamonov, p. 227

124) L.K. Davydov, v. II, 1955, p. 505

125) Artamonov, p. 227

126) Liver. & Kol., p. 111

127) L.K. Davydov, v. II, 1955, p. 505

128) BSE, v. 17, 1952, p. 75

129) Ibid.; also L.K. Davydov, v. II, 1955, p. 505

130) Artamonov, p. 227

131) L.K. Davydov, v. II, 1955, p. 504

132) BSE, v. 17, 1952, p. 75

133) Ocherki Akad., p. 231

134) BSE, v. 17, 1952, p. 75

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135) Ibid.; also L.K. Davydov, v. II, 1955, p. 508

136) BSE, v. 17, 1952, p. 75

137) Ibid.

138) Ibid.

139) SSE, v. 1, 1929, p. 720

140) BSE, v. 17, 1952, p. 75

141) L.K. Davydov, v. II, 1955, p. 505

142) BSE, v. 17, 1952, p. 75; also L.K. Davydov, v. II, 1955, p. 505

143) L.K. Davydov, v. II, 1955, p. 505

144) Ibid.

145) Ibid.

146) Ibid.

147) Ocherki Akad., p. 231

148) Liver. & Kol, p. 111

149) L.K. Davydov, v. II, 1955; p. 505; also BSE, v. 17, 1952, p. 75

150) Liver. & Kol., p. 111

151) L.K. Davydov, v. II, 1955, p. 505

152) Ibid.

153) Ocherki Akad., p. 231

154) BSE, v. 17, 1952, p. 75

155) L.K. Davydov, v. II, 1955, p. 505

156) Artamonov, p. 224

157) L.K. Davydov, v. II, 1955, p. 505

158) Ibid., pp. 505, 6

159) BSE, v. 17, 1952, p. 75

160) Liver. & Kol., p. 111

161) L.K. Davydov, v. II, 1955, p. 506; also Liv. & Kol., p. 111

162) L.K. Davydov, v. II, 1955, p. 505

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163) Ibid.
164) Ibid.
165) Ocherki Akad., p. 231; also SSE, v. 1, 1929, p. 401
166) L.K. Davydov, p. 231
167) Ocherki Akad., p. 231
168) Ibid.
169) L.K. Davydov, v. II, 1955, p. 506
170) Ocherki Akad., p. 231
171) L.K. Davydov, v. II, 1955, p. 506; also Ocherki Akad., p. 231
172) Ocherki Akad., p. 231
173) Ocherki Akad., p. 231; also L.K. Davydov, v. II, 1955, p. 506
174) Ocherki Akad., p. 231
175) SSE, v. 1, 1929, p. 401
176) L.K. Davydov, v. II, 1955, p. 506; also SSE, v. 1, 1929, p. 401
177) L.K. Davydov, v. II, 1955, p. 506
178) Ibid.
179) SSE, v. 1, 1929, p. 401
180) Artamonov, p. 229
181) Ocherki Akad., p. 231
182) L.K. Davydov, v. II, 1955, p. 506
183) Artamonov, p. 229
184) L.K. Davydov, v. II, 1955, p. 506
185) Ocherki Akad., p. 231
186) L.K. Davydov, v. II, 1955, p. 506
187) Artamonov, p. 229
188) SSE, v. 1, 1929, p. 401
189) L.K. Davydov, v. II, 1955, p. 506; SSE, v. 1, 1929

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190) Ocherki Akad., p. 231

191) SSE, v. 1, 1929, p. 401

192) Artamonov, p. 229

193) Turist, p. 90

194) Artamonov, p. 229

195) SSE, v.1, 1929, p. 401

196) L.K. Davydov, v.II, 1955, p. 506

197) Ibid.

198) Ibid.

199) Ibid

200) Ibid.

201) Davydov, v. II, 1955, p. 507

202) Ibid.

203) BSE, v. 41, 1956, p. 287

204) Ibid.

205) Davydov, v. II, 1955, p. 507

206) BSE, v. 41, 1956, p. 287

207) Ibid.

208) Ibid.

209) BNG, p. 465

210) Burskiy, p. 125

211) L.K. Davydov, v. II, 1955, p. 508

212) Ibid.

213) Ibid

214) E.M. Murzayev, Severo-Vostochnyy Kitay (North-Eastern China), Moskva, 1955, Abbreviated to "Murzayev", p. 112

215) Turist, p. 91

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216) BSE, v. 41, 1956, p. 287, c. 1

217) Murzayev, p. 220

218) Davydov, v. II, 1955, p. 508

219) BSE, v. 41, 1956, p. 287

220) Ibid.

221) L.K. Davydov, p. 508

222) SSE, v. 1, 1929, p. 97 and Turist, p. 91

223) L.K. Davydov, v. II. 1955, p. 508

224) L.K. Davydov, v. II, 1955, p. 508; Ocherki Akad., p. 232

225) Ocherki Akad., p. 231

226) Ibid., p. 231-2

227) L.K. Davydov, v. II, 1955, p. 508

228) Ibid.

229) L. K. Davydov, v. II, 1955, p. 508

230) Ibid.

231) Ibid.

232) Ibid.

233) Ocherki Akad., p. 232

234) M: Primorskiy Kray (Maritime Kray) 1922-1947. Vladivostok, 1947, p. 20

235) Ocherki Akad., p. 232

236) Primorskiy Kray, p.20

237) Ocherki Akad., p. 232

238) BSE, v. 56, 1936, p. 348

239) Ibid.

240) Murzayev, p. 219

241) SSE, v. 1, 1929, p. 97

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242) Primorskiy Kray, p. 20; also BSE, v. 56, 1936, p. 348
243) BSE, v. 56, 1936, p. 348
244) L.K. Davydov, v. II, 1955, p. 508
245) BSE, v. 56, 1936, p. 349
246) L.K. Davydov, v. II, 1955, p. 508
247) Ocherki Akad., p. 232
248) L.K. Davydov, v. II, 1955, p. 508
249) Ibid.
250) Ibid.
251) Ibid.
252) Ibid
253) Ocherki Akad., p. 232
254) L.K. Davydov, v. II, 1955, p. 508
255) Ibid.
256) BSE, v. 56, 1936, p. 349
257) L.K. Davydov, v. II, 1955, p. 509
258) BSE, v. 2, 1950, p. 220
259) Ocherki Akad., p. 232
260) SSE, v. 1, 1929, p. 95
261) Ocherki Akad., p. 232
262) Ibid.
263) SSE, v. 1, 1929, p. 95
264) Ocherki Akad., p. 232; also Davydov, v. II, 1955, p. 509
265) L.K. Davydov, v. II, 1955, p. 509
266) Ocherki Akad., p. 232
267) Ibid.
268) SSE, v. 1, 1929, p. 94

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269) L.K. Davydov, v. II, 1955, p. 509

270) Liver. & Kol., p. 112

271) L.K. Davydov, v. II, 1955, p. 509

272) Artamonov, p. 231

273) BSE, v. 2, 1950, p. 220

274) L.K. Davydov, v. II, 1955, p. 509

275) BSE, v. 2, 1926, p. 390

276) SSE, v. 1, 1929, p. 94
276a Artamonov, p. 231.
277) BSE, v. 2, 1950, p. 220

278) Artamonov, p. 231

279) L.K. Dayydov, v. II, 1955, p. 509

280) Ibid.

281) Ibid.

282) Ibid.

283) Ibid .

284) SSE, v. 1, 1929, p. 94

285) Ibid., p. 93

286) Ibid., p. 50

287) Burskiy, p. 125

288) SSE, v. 1, 1929, p. 345

289) Ibid., p. 137

290) Ibid., p. 720

291) Ibid., p. 334

292) Liver. & Kol., p. 111

293) SSE, v. 1, 1929

294) Ibid., p. 344

295) Liver. & Kol., p. 111

296) Liv. & Kol., p. 112

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NAVIGATION CONDITIONS

CHAPTER V

A. Duration of the Navigation Season

B. Depths on the Amur River

C. Accessibility of Rivers of the Amur River basin

D. Classification of shoals on the Amur River and its tributaries.

E. Winds and Weather in the estuary of the Amur River and in the Bay of Amur-Fogs

F. Classification of Vessels plying the Amur River

G. List of Vessels plying the Amur River and its tributaries

A. Duration of Navigation Season

In the upper Amur River, the navigation season lasts only 165 days a year.(1)

In the middle reaches of the Amur, where the river receives the Zeya and Bureya tributaries, the navigation season lasts 173 days a year according to a 1926 source(2). A navigation season of 170 days a year is reported for Blagoveshchensk at the estuary of the Zeya River.(3)

The navigation season lasts 185 days in Khabarovsk, below the confluence of the Ussuri River.(4)

At Nikolayevsk, the navigation season lasts 163 days and in the Amur River estuary -- 135 days.(5)

The navigational season in the Gulf of Amur is between June 4 and October 12.(6)

The fairways on the lower Amur are subject to frequent changes and ordinarily July is the season of lowest water. No buoys are used to indicate the fairway, and navigation is by landmarks or ordinary piloting. The river is well lighted so that steamers can navigate it by night, except in foggy weather. Dense fog, usually thickest in the morning, is frequent throughout August and September.(7)

The navigation season begins between 1 and 19 May on the Shilka and Amur Rivers and 2 or 3 weeks earlier on the Ussuri River and ends about the 15 to 25 October on the Shilka and the Amur rivers and somewhat later on the Ussuri River.(8)

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This same source sets the navigation period on the Shilka and Amur rivers as varying from 150 to 160 days in the northern and 170 to 180 days in the southern latitudes.(9)

B. Depths on the Amur River

The Amur River is navigable along its entire course(10), although shoals consisting mainly of large pebbles(11), which in the lower reaches are called "dangerous rocky shoals".(12), present some obstacles to navigation.

One hundred and twenty one (121) shoals were reported to exist on the Amur River from the confluence of the Shilka and Argun' rivers to the estuary.(13)

According to a recent source, the Amur River is navigable for vessels with a maximum draft of 0.8 m from its headwaters (Shilka-Argun' confluence) to the estuary of the Bureya River.(14)

From the estuary of the Bureya River to Khabarovsk, the Amur River has a depth of 1.5 m, except for one place on a shoal, where the depth is 1.1m at low water(15). This shoal is located 3 or 4 miles downstream from Soyuznaya village 270 miles upstream from Khabarovsk and is over 1 mile long and rocky.(16)

According to a 1929 source, vessels with a draft of 2.5 m could sail on the lower Amur River from Khabarovsk to the estuary.(17)

Recent sources state that from Khabarovsk to Komsomol'sk, the minimum depth is 3.7 m(18), while an earlier source stated that below Khabarovsk, the minimum depth on the Amur River varies from 3.6 to 4.5 m(19), and even earlier source stated that depths are at least 3.m to 3.5 m on the entire extent of the lower reaches of the Amur River and during the lowest navigation level.(20)

There is a range of about 33 ft between high and low water at Khabarovsk, but this range is only about 10 ft at Nikolayevsk, for the numerous lakes in the lower Amur take up the overflow. The speed of the Amur River in the lower reaches is 1 to 3 knots.(21)

According to a 1926 source the real obstacle to navigation of the very lowest reaches of the Amur River was the sandy bar 3 to 4 m deep that lies across the estuary. Because of this bar ocean going steamers must stop is the estuary for transshipment, a shipping handicap which lowers considerably the transit significance of the Amur River.(22)

According to one source, the natural conditions of the lower Amur are favorable to the uninterrupted navigation of vessels with a 2.5. m draft. Heavier vessels would require a transit depth of 3.6 m.(23)

If this transit depth of 3.6 m were attained, says the author of an article on the subject, vessels with a deeper draft could navigate from Nikolayevsk to Khabarovsk. In order to achieve this end, beacons should be installed on the shoals of the lower reaches of the Amur and dredging operations carried out during low water years to maintain the 3.6 m minimum depths.(24)

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In 1929 an authority was of the opinion that from Khabarovsk to Tambovskoye, the natural depths (sic) of 3.60 m would be completely guaranteed once obstacles such as the Troitskoye and Gionskoye shoals (700 and 750 km respectively upstream from Nikolayevsk) were removed.(25)

But an article also says that the depths of 3 m to 3.6 m actually exist on the Troitskoye and Gionskoye shoals downstream from Khabarovsk and that they are actually not minimum, for during the 1926-low water year, depths exceeded 3.05 m for 17 days and were less than 3.05 m during 13 days. In 1927 there were 109 days with depths exceeding 3.05 m, in 1928 there were 111 days with depths exceeding 3.05 m and during both 1927 and 1929 there were only 13 days with depths below that figure.(26)

By 1951 and 1952 the minimum dredged depth from Komsomol'sk to Nikolayevsk was reported to be 5.2 m.(27)

According to the 1929 source already mentioned, the Khalababatskiy perekat (shoal) on the "old Amur" channel of the Amur River, 267 km upstream from Nikolayevsk is the first obstacle encountered by vessels of 5.4 m draft sailing upstream. Elimination of this obstacle according to this source, would guarantee the 5.4 m depth from the shoal to the settlement of Tambovskoye 481 km upstream from Nikolayevsk.(28)

During its last 470 km to the Strait of Tartary, the Amur River is accessible to sea going vessels with a 5 m draft, and the last 150 km before the Strait of Tartary allow navigation of even large ocean-going steamers.(29)

Already 30 miles upstream from Nikolayevsk there are depths ranging from 6.9 m to 23.8 m.(30)

C. Table showing accessibility of rivers of the Amur River basin according to data available as of 1928.

Name of River	Not floatable (In kilometers)	Floatable	Navigable	For steamers	Notes
Trans-Baykal Area:					
Onon	90	770	650	-	
Ingoda	122	528	427	-	
Shilka	-	521	521	381	(From Kokuy settlement)
Argun'	-	902	898	567	(From Novotsurukhaytuy)

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Name of River	Not floatable (In	Floatable kilometers)	Navigable	For steamers	Notes
Amur Area:					
Zeya	92	1,110	1,022	719	(From Dambuki sklad)
Selemdzha	171	529	429	320	(From Stoyby)
Gilyuy	165	377	351	-	
Urkan	88	237	75	-	
Tom'	75	250	145	-	
Nora	95	140	120	-	
Bureya	87	536	462	331	(From Chukundinskiy sklad)
Niman	57	158	102	-	
Bira	123	138	69	-	
Maritime Region:					
Ussuri	280	600	600	456	(From Sungacha River)
Iman	190	185	185	7	(From Ussuri RR)
Bikin	103	272	151	-	
Khor	76	234	120	-	
Amgun'	75	775	698	370	(From Kerbinskiy sklad)
Kamchatka:					
Kamchatka	80	870	550	120.	(31)

According to the same source, in 1928 the total length of floatable and navigable rivers of the Amur River basin was 26,150 km.

Extent of navigable rivers	20,310 km
Floatable reaches of rivers	17,511 km
Navigable reaches of rivers	13,178 km. (32)

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D. Classification of shoals on the Amur River and its main tributaries

River and Sector. Shilka and Amur rivers.*	Lenth in km.	Level to which depth referred	Number of shoals and depths in cm. 30 cm & less	30cm 46cm	61cm 76cm	91cm 122cm	152 cm & more	Total
Shilka from Sretensk to Pokrovka	399	-	-	-	2 16	39 34	11 -	102
Amur River from Pokrovka to Dzhalinda	204	-	-	-	1 1	4 4	4 -	14
Amur River from Dzhalinda to Blagoveshchensk	690	-	-	-	1 3	10 24	13 2	53
Amur River from Blagoveshchensk to Yekaterino-Nikol'skaya	582	-	-	-	- -	- 2	2 4	8
Amur River from Yekaterino-Nikol'skaya to Khabarovsk	420	-	-	-	- -	- -	- 8	8
Lower Amur from Khabarovsk to Sredne-Tambovskoye	434	-	-	-	- -	- -	- 34	34
Lower Amur from Sredne-Tambovskoye to Estuary	500	-	-	-	- -	- -	- 3	3
Amur River Bar	-	-	-	-	- -	- -	- -	-
Total number of shoals on Shilka and Amur rivers:								222 (33)

* When determining the minimum depths on the shoals of the Lower Amur, the low water season (23 days) of July 1907 was eliminated as exceptional, being observed only once in 16 years.

In 1907 the water level in the water measuring posts of the lower Amur registered a drop of 107 cm below the 1903 to which measurements on the lower Amur are referred to.

Data available are not entirely exact, for by 1928 no detailed photographing of the upper Amur had yet been caffied out.

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Classification of shoals on the Amur River and its main tributaries (Continued)

River and Sector	Length in km.	Level to which depth referred	Number of shoals and depths in cm: 30cm & less	30cm	46cm	61cm	76cm	91cm	122cm	152cm & more	Total
Zeya River											
Upper Zeya from Dambuki sklad to landing stage of town of Zeya	160	-	-	-	1	2	3	6	7	1	20
Lower Zeya from Zeya landing stage to Blagoveshchensk	645	-	-	-	2	3	4	12	10	1	32
Total number of shoals on the Zeya River: (Artamonov. p 276-77)											52
Bureya River*											
From estuary to Paykanskiy sklad	151	Low summer level	-	-	2	2	5	7	1	-	17
From Paykanskiy sklad to Chikundinskiy	210	"	2	-	-	8	6	-	-	-	16
From Chikundinskiy sklad to estuary of Niman River	94	"	-	5	1	-	2	1	-	-	9
From estuary of Niman River to 53 km above Umal'tinskiy sklad	98	"	No information available								
From 53 km above Umal'tinskiy sklad to headwaters of Bureya River	111	"	No information available								
Total number of shoals on the Bureya River			2	5	3	10	13	8	1	-	42

*On many shoals of the Bureya River, the depth does not exceed 30 cm. (Artamonov, p.280, 281.)

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AIR INTELLIGENCE INFORMATION REPORT

PAGE 106 OF 153 PAGES

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Classification of shoals on the Amur River and its main tributaries (Continued)

River and Sector	Length in km.	Level to which depth referred	Number of shoals and depths in cm								
			30cm & less	30cm	46cm	61cm	76cm	91cm	122cm	152cm & more	Total
Argun' River**											
From estuary to Olochinskaya stanitsa	438	Minimum	-	-	24	18	26	38	4	2	112
From Olochinskaya stanitsa to Mutnaya protoka (channel)	530	Minimum	-	-	8	7	3	20	4	-	42
Total number of shoals on the Argun' River:					32	25	29	58	8	2	154
Ussuri River***											
From estuary to Donskaya st.	510	Minimum Level	-	-	-	-	1	5	-	-	29(34)

**The level to which the depths are referred was observed during 3 weeks in the exceptionally shallow period of 1907. (Artamonov, p.276-77)

During 95 o/o of the navigation season the Argun' River has usually minimum depths not below 83,8 cm. (Artamonov, p.276-77)

***The depth of 23 shoals on the Ussuri River is unknown, but in any case (sic) it exceeds 61 cm. (Artamonov, p.281,1928)

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E. Winds and Weather in the estuary of the Amur River and in the Bay of Amur.

The navigational season in the Gulf of Amur is between June 4 and October 12.(35)

In the Bay of Amur the prevailing winds are northwesterly during the winter and southerly during the summer.(36)

Off the mouth of the Amur River westerly winds sometimes blow with great force; these winds increase the force of the out-going tidal currents, and also at times bring down large quantities of drift ice.(37)

Southerly winds for the most part prevail here during the summer and are particularly strong between 3 and 5 p.m. usually dropping to a calm at nightfall.(38)

Northerly winds during the summer are very rare and short-lived, but when they do occur they are usually accompanied by thick or rainy weather.(39)

During the winter northwesterly winds are frequent in the daytime but cease at nightfall.(40)

Northeasterly winds usually last for several days and ordinarily are accompanied by snow and gloomy weather.(41)

At the spring equinox, northwesterly to northeasterly winds are prevalent, and there are often strong northerly gales.(42)

In the vicinity of Nikolayevs, the prevailing winds are from eastward or westward, and northerly or southerly winds are rare.(43)

In the summer prolonged northerly winds in Okhotsk Sea gradually drive the floating ice from that sea southward. Occasionally the ice becomes packed off Ostrov Baydukov, rendering the northern entrance of the Gulf of Amur ice-bound; at the end of June 1915, a strong northerly gale forced this drift ice through Farvater Nevel'skogo, holding up navigation for several days.(44)

Fogs

The season of fog in the Gulf of Amur begins early in April and ends early in September; particularly dense and protracted fog is prevalent throughout June and July. A Russian pilot with many years of experience in the Gulf of Amur describes the fog conditions prevailing during May, June and July as follows: Between Mys Lazareva and Nikolayevsk, northeasterly winds bring fog, and southeasterly winds are accompanied by clear weather; in the vicinity of Nikolayevsk, clear weather prevails during the month of September, although dense fog occurs between approximately 9 and 10 o'clock in the morning.(45)

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F. Classification of Vessels plying the Amur River.

The rules of the USSR Register divides all vessels sailing on inland waterways into 4 classes or categories according to the region in which they sail.

"M" class comprises sturdier vessels resembling seagoing craft.
"O" class includes less sturdy vessels, good for sailing on lakes.
"R" class includes vessels the sturdiness of which allows them to sail on large rivers and small lakes.
"L" class includes vessels destined to sail on the upper reaches of large rivers and their tributaries.
(Shanchurov, 1954, p.72-3)

Vessels plying the waters of the Amur River are therefore of the following classes according to the regions in which they sail.

"M" - Gulf of Amur below Nikolayevsk -na-Amure
"O" - Khabarovsk to Nikolayevsk -na-Amure
"R" - Blagoveshchensk to Khabarovsk
"L" - Shilka and Zeya rivers.(46)

G. List of Vessels Plying the Amur River and its Tributaries

"Arkhangel'sk" steamer. Its machinery was converted to oil fuel.(47)

"Artem" vessel of the Amur Steamship Line. Awarded the challenge banner of the Ministry of the River Fleet and 3rd cash prize for socialistic competition among river workers during the 3rd quarter of 1955.(48)

During the 1955 navigation season, this steamer (T. Derkach captain) was given "Komsomolka" oil tanker barge in tow and made the 900 km run on a reduced time schedule of 9 full days instead of the 12 planned for the round trip. Owing to the use of push towing, the norm was fulfilled in excess of the plan in spite of high water and swift currents. The navigation plan was fulfilled 138 o/o, 120 tons of fuel were saved and shipping costs fell by 17.5 o/o. Over 500 hours of operation time were saved in 4 months.(49)

"Azov" motor cutter brought the new crop of wheat from the hinterland areas on the Amur River.(50)

"Batumi" steamer. Mentioned on 19 Feb.1955 as having used fuel economically during the 1954 navigation season.(51)

"Chicherin" passenger vessel. The cost of repairs to this ship proved 2-3 times higher than that of the construction of a new ship of the "V.Chkalov" or "Baykal" type.(52)

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"Dal'niy Vostok" motor ship (Badayev captain). Saved 105 tons of fuel in the 1954 navigation season.(53)

"M.Frunze" steamer. I. Talaeyv was chief of the "M.Frunze" agitparokhod (propaganda steamer) in January 1955.(54)

"Furmanov" steamer had its propulsion machinery converted to oil.(55)

"Groznyy" steamer was among the ships that brought the first convoy of grain (Captain Baranov) to Khabarovsk in 1956.(56)

"Il'yich" passenger steamer of the Amur Steamship Line was rebuilt in 1955. The cost of its rehabilitation equalled that of building a new vessel.(57)

"Iman" motor cutter brought wheat to Khabarovsk from the Hinterland in 1956.(58)

"Kerch" steamer was awarded 3rd grade cash prize and the challenge banner of the Ministry of the River Fleet for its performance in the socialistic competition of workers of the river fleet during the 4th quarter of 1954.(59)

"Khar'kov" steamer. A mechanic of this steamer proposed to install automatic ash removal equipment on ships. This was done on 7 ships.(60)

"Komintern" vessel. The cost of repairs to this vessel proved 2-3 times higher than that of building a new vessel of the "V.Chkalov" or "Baykal" type.(61)

"Kommunist" steamer was mentioned on 19 Feb.1955, as having used fuel economically in the 1954 navigation season(62), and was awarded 3rd grade cash prize and the challenge banner of the Ministry of the River fleet for its performance during the socialistic competition of workers of the river fleet, during the 4th quarter of 1954.(63)

"Khor" motor cutter was among vessels which brought the first convoy of grain to Khabarovsk in 1956.(64)

"Kotovskiy" steamer sails on the Amur and was built at the "Krasnoye Sormovo" plant. During the war years, until 1946, the vessel was allotted poor supplies of fuel and other materials. The "Kotovskiy" can sail 2,500 hours without boiler cleaning. Owing to efforts of its crew, the ship had its boiler cleaned only once between 1952 and 1955. This ship sails on the Amur River, on the Zeya, Bureya, Shilka and Argun' rivers. In most cases the "Kotovskiy" tows rafts and pulls 4 or 5 laden barges upstream. During laden runs the technical speed always exceeds the planned speed by 10-20 o/o, but when it sails without cargo, the steamer fails to exceed its norm because the propeller wheels suffer damage when the vessel moves at great speed.

In 1955, the "Kotovskiy" underwent repair and checking at the plant im. Lenina in Blagoveshchensk.(65)

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"Krechet" motor ship of the Amur Steamship Line.(66)

"Kutuzov" steamer.(67)

"Kuznetsk" steamer. A mechanic of this steamer proposed a new system for water pipe boilers on several steamers.(68)

"Leningrad" steamer. Mentioned on 19 Feb.1955 as having used fuel economically in the 1954 navigation season.(69)

"Mao-tse-tung" steamer. Had its furnace repaired twice in the 1954 navigation season.(70)

"Minsk" steamer (Yermakovo captain). Routine repair of this ship was started by the crew and this example was followed by 10 other self-propelled vessels. Forty more ships are to be thus repaired on the Amur River.(71)

"Mukhin" steamer was awarded 3rd grade cash prize and the challenge banner of the Ministry of the River Fleet for its performance during the socialistic competition of the workers of the river fleet in the fourth quarter of 1954.(72)

"Murom" motor ship sails on the Upper Amur.(73)

"Ob'" Motor ship (Captain Zhilo). In order to reduce expenses, the crew of the "Ob'" proposed to dispense with a pilot after entering the Amur River estuary*. Since that time the "Ob'" made 4 pilot-less runs and saved 4.537 rubles on pilotage, while the time saved and the elimination of demurrage saved in addition more than 26,000 rubles. The "Ob'" also transported 400 tons of freight in excess of the plan.(74)

"Sergey Lazo" motor ship. Sails on the Upper Amur.(75)

"Stalinabad" ship of the Amur Steamship Line was awarded the challenge banner of the Ministry of the River Fleet and 3rd cash prize for its performance during the socialistic competition of workers of the river fleet, in the third quarter of 1955.(76)

"Stalingrad" steamer was awarded a 3rd grade cash prize and the challenge banner of the Ministry of the River fleet for its performance during the socialistic competition of workers of the river fleet, in the third quarter of 1954.(77)

"Sverdlovsk" steamer undertook the obligation to lay pipelines with the effort of its own crew.(78)

"Tashkent" steamer was mentioned on 19 Feb.1955, as having used fuel economically in the 1954 navigation season(79), and was awarded a 3rd grade cash prize and the challenge banner of the Ministry of the River Fleet for its performance during the socialistic competition of the workers of the river fleet in the last quarter of 1954.(80)

*All vessels bound for Nikolayevsk formerly sailed from Khoe to Chikhachev Bay, to get a pilot for the lower reaches of the Amur River, thus crossing the Strait of Tartary twice, and lenghtening their run by 38 km. Moreover the vessels did not enter the Amur River estuary at the proper time and therefore had to wait for the water to rise. Such delays reduced the loading time in Nikolayevsk from 42 to 15-18 hours and in order to observe their schedule, the motor vessels often left with only half filled holds. Hence the above experiment.
(N:Vod.Transp.No.111,15 Sept.1955,p.2, c.5-6).

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"Yaroslavl" steamer (Captain Brovin) brought the first convoy of grain to Khabarovsk in 1956.(81)

"Yerevan" steamer (Sashnikov captain). Mentioned on 19 Feb.1955, as having burned 145 tons of fuel in excess of the plan in the 1954 navigation season.(82)

"Zhdanov" steamer. (Bolivantsev captain). Saved 216 tons of fuel during the 1954 navigation season and mentioned on 19 Feb.1955 as having used fuel economically in the 1954 navigation season.(83)

The "Taiga", "Volga", "Estonia", "Cheremkhovo" and, "Raychikha" barges demurred 4 full days at the port of Khabarovsk in 1955.(84)

"Amurskiy-9" dredger of the Amur River basin waterway administration. Commended by the all-Union Central Council of Trade Unions and the Ministry of the River fleet, for its efficient performance during the 3rd quarter of 1955.(85)

"Amurskiy-2" dredger of the Amur basin waterway administration. Awarded the challenge banner of the Ministry of the River Fleet and a 3rd cash prize for socialistic competition during the 3rd quarter of 1955.(86)

Dredger "Amurskiy-11" Works on the Amur River.(87)

"Amurskiy-14" dredger. Mentioned in connection with the efficiency of a group of mechanics of the Amur Basin waterway administration. (88)

"Komsomolka" oil tanker barge. Mentioned as attached during the 1955 navigation season to the "Artem" steamer and making 900 km long runs on a reduced time schedule of 9 full days instead of 12 for the round trip.(89)

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Navigation Conditions
Chapter V

1) BSE,v.2,1926, p.563
2) Ibid.
3) SSE,v.1,1929, p.98
4) Ibid.
5) EZDV, p.56
6) US 122B, p.
7) US 122B, p.54
8) Burskiy, p.62
9) Ibid.,p.63
10) Putevod. p.278, also Ocherki Akad. p.230
11) Putevod. p.278
12) BNG, p.463, also US 122B, p.53
13) Putevod. p.278
14) BNG, p.463
15) Ibid.
16) Ibid.,p.465
17) EZDV,v.6,1929, p.11
18) US 122B, p.53, also, BNG, p.463
19) Burskiy, p.63
20) BSE,v.2.,1926, p.559
21) US 122B, p.53
22) BSE,v.2.,1926, p.559
23) EZDV,v.6,1929, p.11
24) Ibid.,p.11
25) Ibid.,p.9
26) Ibid.,p.11
27) US 122B,p.53, also BNG,p.463
28) EZDV,v.6,1929, p.9
29) BSE,v.2,1926, p.559
30) US 122B, p.53, also BNG, P.463
31) Burskiy, pp.46-7
32) Ibid. p.62
33) Artamonov, pp.276,277
34) Ibid., pp.280-281
35) US 122B, p.42
36) Ibid., p.44
37) US 122B, p.44
38) Ibid., p.45
39) Ibid.
40) Ibid.
41) Ibid.
42) Ibid.
43) Ibid.
44) Ibid.
45) Ibid., p.42
46) P.N. Shanchurov ? Osnovy Sudovozhdeniya po vnutrennim vodnym putyam (Elements of Navigation on Inland Waterways), Moskva,1954. Abbreviated to "Shanchurov". p.74.
47) Vodnyy Transport,No.40,2 April 1955, p.3,c.2
48) Ibid.,No.132,3 Nov.1955, p.4,c.4

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49) Ibid.,No.153,22Dec.1955, p.3, c.1.
50) Ibid.No.109,13 Sept.1956,p.1, c.5
51) Ibid.,No.22,19 Feb.1955, p.3, c. 5-6.
52) Ibid.No.93, 4 Aug.1955, p.3,c.2
53) Ibid.,No.22,19 Feb.1955, p.3,c.5-6.
54) Vodnyy Transport, No.4, 8 Jan.1955, p.2,c.3
55) Ibid.,No.40, 2 Apr.1955, p.3,c.2
56) Ibid.No.109, 13 Sep.1956, p.1,c.5.
57) Ibid., No. 93, 4 Aug.55, p.3, c.2
58) Ibid.No.109, 13 Sep. 1956, p.1,c.5
59) Ibid.,No.20, 15 Feb.1955, p.1,c.3,5.
60) Ibid.,No.40, 2 Apr. 1955, p.3,c.2
61) Ibid,No.93, 4 Aug.1955, p.3,c.2
62) Ibid., No.22, 19 Feb.1955, p.3,c.5-6.
63) Ibid., No.20,15 Feb.1955, p.1,c.3-5.
64) Ibid.,No.109, 13 Sept.1956, p.1,c.5
65) Ibid.,No.104, 30 Aug.1955, p.3,c.1-3.
66) Ibid., No. 16, 4 Feb.1956, p.2,c.6
67) Ibid., No.143,29Nov.1955, p.2,c.5-6.
68) Ibid., No. 40, 2 Apr.1955, p.3,c.2
69) Ibid., No. 22, 19 Feb.1955, p.3,c.5-6
70) Ibid.
71) Ibid.No.143,29 Nov.1955, p.2,c.5-6
72) Ibid. No. 20, 15 Feb.1955, p.1,c.3-5.
73) Ibid.,No.22, 19 Feb.1955, p.3,c.5-6
74) Ibid.,No.111, 15 Sep.1955, p.2,c.5-6.
75) Ibid., p.1.
76) Ibid., No.132, 3 Nov.1955, p.2,c.4
77) Ibid.,No.20, 15 Feb.1955, p.1,c.3,5.
78) Ibid.,No.143, 29 Nov.1955, p.2,c.5-6.
79) Ibid., No.22, 19 Feb.1955, p.3,c.5-6.
80) Ibid.,No.20,15 Feb.1955, p.1,c.3-5
81) Ibid.,No.109, 13 Sep.1956, p.1,c.5
82) Vodnyy Transport,No.22, 19 Feb.1955, p.3,c.5-6
83) Ibid.
84) Ibid.,No.96, 11 Aug.1955, p.3,c.2-3.
85) Ibid.No.132, 3 Nov.1955, p.2,c.4
86) Ibid.
87) Ibid., No.110, 15 Sep.1956, p.1,c.7
88) Ibid.,No.132, 3 Nov.1955, p.2,c.1-2.
89) Ibid.No.153,22 Dec.1955, p.3,c.1.

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AIR INTELLIGENCE INFORMATION REPORT

PORTS ON THE AMUR RIVER
Chapter VI

A. Blagoveshchensk

B. Poyarkovo

C. Komsomol'sk-na-Amure

D. Khabarovsk

E. Nikolayevsk-na-Amure

A. Blagoveshchensk

Blagoveshchensk*, one if the most important towns of the Amur area, stands on almost level ground immediately above the junction of the Zeya River with the Amur River. It has a large cathedral, several other churches and a considerable number of brick buildings. It is a mining and agricultural center.(1)

The Amur is here about 3 cables wide, with one bank 6.1 m high, forming a small cliff above a beach fronting the town, which extends along the beach for more than 4 miles, and about 2 miles inland. On the opposite side is a perfectly flat plain, with the towns of Ta Hei Ho and Sakhalyan, facing Blagoveshchensk. A ferry crosses the river from Blagoveshchensk to Sakhalyan.(2)

In 1929, the largest enterprises in Blagoveshchensk were 4 machines plants and repair shops, 4 sawmills, a match factory, 4 flour mills, 2 oil mills, a tannery, 2 breweries, 4 tobacco factories, a gold smelting laboratory, and 3 printing establishments.(3) The ship repair yards in the Leninskiy zaton (inlet) were the largest in the Soviet Far East(4), for any type of capital repairs, being the best equipped in the Soviet Union.(5)

By 1952, the main industries of Blagoveshchensk were still shipbuilding, sawmills and lumber processing plants, flour mills, elevators and gold smelting.(6)

The population seems to have varied only slightly during the past 30 years. In 1926 it was reported to be 61,205 Russians.(7) A 1950 source mentions that the 1939 census set the population figure at 58,800.(8)

In 1915, the total freight turnover in the port of Blagoveshchensk amounted to 373,400 tons; in 1923 it was only 160,500 tons.(9)

The Blagoveshchensk railroad station is located 8 km from Blagoveshchensk pristan' tovarnaya (freight landing stage).(10)

A high voltage electric line was under construction in September 1956 from Raychikhinsk to Blagoveshchensk. This line is to supply electric

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power to the neighboring Amur River area with substations located in Tambovka, Mikhaylovka and Blagoveshchesnk.(11)

The Blagoveshchesnk plant im. Lenina produces amond other things shallow draft 60-ton vessels with hydrojet engines. These vessels are destined to kolkhozes, sovkhozes and machine and tractor stations situated in the upper reaches of the Amur River.(12)

The above plant has been undergoing its share of criticism. At a conference of river workers of the Upper Amur River, the shortcomings of the Blagoveshchensk rayon Administration and of the Amur Steamship Line were divulged and the poor quality of repair works on vessels at the plant im. Lenina was also noted.(13)

B. Poyarkovo

Poyarkovo**is a port on the left bank of the Amur River, 170 km below Blagoveshchensk.(14) In 1929 the population was 2,617.(15)

Poyarkovo is also the terminal station of the Zavitaya - Poyarkovo (16) branch of the Amur Railroad trunkline.(17)

According to a 1955 source, Poyarkovo has a middle and a primary school, House of Culture, a cinema, 3 libraries. There are 3 Machine and Tractor Stations in the Mikhaylovskiy rayon, of which Poyarkovo is the center.(18)

By 1956 Poyarkovo was considered a large landing stage on the Amur River and complaints were voiced concerning the irregularities in the matter of electric power supply.(19)

C. Komsomol'sk-na-Amure

Komsomol'sk-na-Amure was built in 1932 on the left bank of the Amur River, on the site of the former settlement of Permskoye (20) and Azenga with a population of about 100.(21)

The present city of Komsomol'sk-na-Amure is a river port* and railroad station on the Volochayevka-Komsomol'sk-Sovetskaya Gavan' line (22) of the Far Eastern Railroad.(23)

Already in 1937, Komsomol'sk was linked to the Far Eastern trunkline by a branch going to Volochayevka Railroad station (38 km north of Khabarovsk).(24) It extends for more than 10 km on the left bank of the Amur River.(25)

*According to a 1955 source, Vtyurin was at that time chief of the Poyarkovo landing stage. (Vodnyy Transp. No. 96, 11 August 1955).

**According to an 8 August 1953, news item, at that date, A.S.Zhdanov was chief of the Komsomol'sk landing stage. (Vodnyy Transport, No. 95, 8 August 1953, p. 3). He still held this post in August 1955. (Vodnyy Transport, No. 96, 11 August 1955, p. 1).

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There is a small basin on the west or left bank of the Amur River north-northeast of Komsomol'sk, and a small breakwater extends from the southern side of the entrance to the basin. This basin has about 243.8m to 274.3m of wharfage with depths of about 5.5m alongside. There is also a shipbuilding yard in the western part of the basin.(26)

Although important for local conditions, the port of Komsomol'sk is a small port by world standards. It affords fair shelter, but its entrance is closed by ice during the winter season, and pilotage is compulsory at all times. The channel controlling depths are 15 to 20 feet, the least anchorage depths are 15 to 20 feet and the maximum wharf depths are also 15 to 20 feet.(27)

According to a 1951 US Navy publication, the construction of a multiple oil pipeline to Komsomol'sk from Moskal'vo, Sakhalin, was reported (1945) to be completed.(28) This pipeline extends from Moskal'vo to Mys Pogobi on Sakhalin, and then to Mys Lazareva on the mainland, whence via De Kastri to Komsomol'sk.(28a)

Komsomol'sk-na-Amure is located in an area abounding in natural resources: coal, gold, iron ore, fur, fish and timber. Its development proceeded rapidly. By January 1937 the population was 49,000 and by 1 March of that same year it jumped to almost 70,000.(29) According to a 1939 census quoted in 1953, it was 70,700 at that time.(30)

By 1937, Komsomol'sk-na-Amure had a flour milling kombinat, a lumber yard, 2 brickyards, a water main, hospitals, and higher and secondary schools, also baths, clubs and a movie house. A fish canning kombinat, a railroad car repair plant, a bakery and a sausage factory were under construction in 1937-1938.(31) The existence of a hospital is also mentioned in 1953.(32)

By 1952, Komsomol'sk was a metallurgical center due to the construction of the "Amurstal'" (Amur Steel) Plant. A ship building plant had also been built.(33)

A 1953 source mentions the presence of a crushed stone and concrete plant, an asphalt producing plant, lumber mills, a confectionery factory, a brewery and a meat kombinat, while the bakery seems to have become a baking kombinat.(34)

As in other USSR ports, inefficiency in freight handling causes demurrage. According to a 1955 source, at the landing stage of Komsomol'sk, demurrage of petroleum tankers was then especially high. Some barges took 6 to 7 full days to be filled.(35)

Many vessels undergo repairs, but this service, under Batikov, is poorly organized as may be seen from the repairs carried out on "Varyag," "Krechet," "Kondor" motor vessels, on "Kazakhstan" barge, and other vessels.(36)

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D. Khabarovsk

Khabarovsk was founded in 1858 and then called Khabarovka. In 1893 it was renamed into Khabarovsk.(37)

According to a 1926 source, the census population of Khabarovsk was then 49,706,(38) By 1947, Khabarovsk had an estimated population of 300,000 and is now a large city standing on three small hills or ridges which approach the east bank of the Amur River in the shape of low cliffs and has a frontage of from 2 to 3 miles, extending about 1 1/2 miles inland.(39)

Khabarovsk is the nerve center of the administration of all branches of the economy and industry of the Khabarovskiy Kray. It is the starting point of geological expeditions, originating place for construction and development plans, and all directives for the carrying out of the economic development plans of the area.(40)

The main streets of Khabarovsk follow the high ridges of an undulating hill. The city blocks lie in the hollows between the ridges. The new multistoried buildings are built on the elevations and seem higher because of their position. Aside from the main arteries, paved with asphalt and bordered with tall buildings lie the long streets curving between the ridges and with sidewalks made of wooden boards bordering the wooden houses.(41)

The axis of the city of Khabarovsk is Karl Marks Street, interrupted high above the Amur River bank, by the asphalt-paved Komsomol'skaya Ploshchad' (Square) that dominates the river. The distant sandy shoals, the forested plains and the Khekhtsir mountains can be seen beyond the railings bordering the square.(42)

The square is the center of the city and is adorned with trees and flower beds, 8 fountains and 2 rows of lantern posts. The new white 6-storied building of the Kray Party School rises at the place where the main avenue leads into the square. To the right, another large building was under construction in 1953, and to the left a new four story apartment building. The new communal building of the medical institute stands next to it. A four storied apartment house of river workers was also under construction on ul. Shevchenko in 1953, and an apartment building was soon to be completed on ul. Serysheva and from there the building of the Institute of Railroad Transport Engineers now under construction can also be seen.(43)

Khabarovsk is the center of 3 transport routes of primary importance and corresponding to the directions of the main river valleys of the Amur and Ussuri rivers. Each of these routes - westward, towards Eastern and Central Siberia, northeastward, to Komsomol'sk and further north to Nikolayevsk and southward to Vladivostok, is served by river, rail and air transport, and in addition highways for motorized transport go northeast to Komsomol'sk and south to Vladivostok.(44)

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The industry in Khabarovsk may be divided as follows:

1. Processing of Far Eastern raw materials - petroleum extracted in Sakhalin andprocessed at the petroleum refinery in Khabarovsk, and timber floated down the Amur and the Ussuri rivers and processed at the timber Kombinat in Khabarovsk.(45) Khabarovsk also has a fish kombinat.(46)

2. Processing of metals for local needs at the machine building plants in Khabarovsk.(47)

Thus Khabarovsk receives steel from Komsomol'sk-na-Amure, petroleum from Sakhalin and fish and timber from the Amur and the Ussuri rivers.(48)

To serve the river transport industry, Khabarovsk has a ship repair yard belonging to the Amur Steamship Line and called Khabarovskiy sudoremontnyy zavod Amurskogo Parokhodstva (Khabarovsk Ship Repair Yard of the Amur Steamship Line) the director of which in 1956 was F. M. Menichenko* (already director in 1953).(49) The shops of Khabarovskiy sudoremontnyy zavod (Khabarovsk Ship Repair Yard) extend at the confluence of the Ussuri and the Amur rivers.(50)

The port of Khabarovsk** according to various sources, also has several freight handling and transshipment sectors.

"Gorod" and "Vetka" are freight handling sectors of the port of Khabarovsk (Korostylev and Lyapunov respectively chiefs).(51)

The "Reyd" (Roadstead) sector of the port of Khabarovsk is noted for its efficiency. For the sixth consecutive month it holds the challenge Red Banner of Labor. Three senior crane operators alone handled 350 barges ahead of schedule.(52)

The Pokrovka sector of the port of Khabarovsk, transships freight bound for points on the Amur River and to Sakhalin. This sector is served by the freight station of Pokrovka pristan' (landing stage) (53) of the Far Eastern Railroad.(54)

In 1956, L. Kuz'min was reported to be the chief of the Pokrovka sector of the port of Khabarovsk.(55)

During the first five months of the 1955 navigation season, the Pokrovka sector handled 35% more freight than in 1954 and fulfilled the year's navigation plan by 3 October. A savings of 200,000 rubles was affected as a result of reduced freight handling costs and the sector operated at a profit.(56)

*Osetrov was secretary of the Party bureau at the Khabarovsk ship repair yard in 1953. (Vodnyy Transport, No. 55, 8 August 1953, p.3).

**According to a 1955 source, Fedchenko was chief of Khabarovsk port in 1953. (Vodnyy Transport, No. 96, 11 August 1955, p. 1).

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In spite of the above successes, there were shortcomings. The sector handled with demurrage 40% of the railroad cars and about 70% of the vessels.(57)

One of the causes of the demurrage is the lack of coordination between the simultaneous norm of the arrival of cars, the transshipment plan and the working plan for stevedores.(58)

The railroad cars are not brought out according to the assigned freight handling and the fixed number of workers. The directors of the port should take this into account when preparing the agreement with the railroad junction for 1956. Simultaneous arrival of railroad cars on the basis of the average daily norm of transshipment and number of cars should be established.*(59)

Although the chief of the Steamship Line ordered that only 2 vessels be handled simultaneously in the Pokrovka sector, actually 3 and 4 are made available and there are not enough stevedores (freight handling personnel) to handle their freight. It should be added that the piers are in a worn out state and have been long in need of drastic reconstruction.(60)

In the port of Khabarovsk, efficiency was not up to par according to the complaints voiced in the press.

Vessels berthed in the port usually bunker 16 to 18 hours instead the 6 hours allotted for this operation by the plan. The average norm of freight handling of the fleet in the port is 3,52 full days as against the 2.929 days fixed by the plan, and 97 of the 163 vessels calling at the port were handled with delays.(61)

Demurrage of rail cars is as great as that of vessels, with 300 to 400 railroad cars jamming the port of Khabarovsk some days. Poor utilization of transshipment machinery and unsatisfactory organization of labor, and poor discipline of the labor force are the main causes for demurrage of vessels and rail cars.(62)

The 2,700 m railroad bridge spanning the Amur River near Khabarovsk is located some 7 km downstream from Khabarovsk and 7 km further downstream is the estuary of the Tunguska River, a left bank tributary of the Amur.(63)

About 14 km**downstream from Khabarovsk on the right bank of the river, there was in 1929 a small settlement, the base of the Amur River flotilla.

In 1929 the base of the Amur River flotilla comprised 5 sections: the Base proper, the Dry Dock, the "abochaya Pad', the Zavodskaya Pad' and the Koreyskiy vyselok (Korean settlement).(64)

*Khabarovksl railroad station of the Far Eastern Railroad is located 5 km from Khabarovsk pristan' (landing station) of the same railroad. This Khabarovsk I Railroad station is also located 4 km from Platform No. 1 situated 2 km from the Depot which in turn is located 3 km from Khabarovsk II railroad station on the Volochayevka-Manzovka line and following the railroad.(Tarifnoye Rukovodstvo,#4, 1954, pp. 198-9).

**A 1929 source stated the flotilla is located 13 km downstream, on the right bank of the Amur River.(SSE,Vol.p. 107,1929)

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In 1926 the population was 2,341 (of which 893 were women). The main occupation was work in the shops of the base, transportation and truck gardening by Koreans. In 1929 geological surveys uncovered considerable deposits of coal near the base of the Amur River flotilla.(65)

An inlet known under the name of "Osipovskiy zaton" was built at the base to serve as wintering place for vessels of the flotilla. Workshops where vessels wererepaired were also located there, likewise the winter barracks of the personnel of the flotilla under training in the basin.(66)

E. Nikolayevsk-na-Amure

Nikolayevsk-na-Amure is located on the northern bank of the Amur River about 30 miles (sic) from the mouth of the river.(67)

The port was founded in 1950 by G.I. Nevel'skoy, originally as a military administrative settlement (Nikolayevskiy Post).(68) It stands on a slope rising gently from a low sandy shore, on the norther n side of Mys Kuegda.(69)

According to a 1929 source, it was then accessible for coastal ships drawing 2 m.(70)

In 1920 the port of Nikolayevsk was almost completely destroyed during the Japanese occupation.(71) Later it was reconstructed and equipped with modern machinery and has now become an important transshipment and transit point, connected with the Lower Amur, the Okhotsk seaboard, Kamchatka Peninsula and Sakhalin island.(72)

The port of Nikolayevsk consists of Nikolayevskiy Reyd (Roadstead), and Nikolayevskaya Gavan', a harbor.(73)

The roadstead, which has depths of 10.1 m to 20.1 m, mud,(sic) is spacious enough for ocean going vessels.(74) It is open to all winds, and fresh easterly winds cause a heavy swell, due to the tidal streams which move eastward at a rate of from 1 1/2 to 3 knots.(75)

The best anchorage in the roadstead is abreast of Mys Kuegda (Koshka) in depths of 11.9m to 12.8 m, good holding ground of mud.(76) Vessels unable to enter the harbor can obtain secure anchorage about 5 miles upstream, and close to the landing place of the submarine cable on the southern bank of the Amur River.(77)

The inner harbor, open only to the west(78) is a convenient wintering place.(79) It is built on the northern side of the roadstead (80) and protected from the south by a detached mole build on the coastal reef between Mys Kuegda and Mys Alon, about 1 3/4 miles West-southwest.(81) This harbor has depths of 3 m to 5.5 m alongside the wharves and depths of from 0.9 m to 3.0 m (82) elsewhere in the harbor.(83) Vessels drawing not more than 5.5 m can lie alongside the detached mole.(84)

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The entrance channel leading into the harbor* is 60.0m wide, and has depths of 4.9 m to 5.2 m.(85)

A 1953 source states that the channel controlling depths at Nikolayevsk are 15-20 feet, the least anchorage depths being 35 to 40 feet and the deepest wharf depths 15 to 20 feet.(86)

Nikolayevsk is approached by shallow fairways**: the Yuzhnyy (south) Farvater (Fairway) which is about 5.5m deep, and the Severnyy (north) which is 5 m deep at low tide and 6 m deep during high tide, at the bar abreast of Langr Island. To remedy the situation, a basin 6 m deep to dock ships was built before 1928 near the port of Nikolayevsk itself.(87)

It should also be added that the port freezes up for 6 1/2 months each year.(88)

Fogs are frequent during southeasterly winds. From about July until the end of October, even in fine weather, fogs occur daily from dawn to about 10 a.m.(89)

The harbor has several wharves, warehouses and some loading facilities. A narrow gauge railroad, used exclusively for transporting of cargo, connects the wharves with the warehouses.(90)

Nikolayevsk is the center of the Lower Amur fisheries, the most important in the Far East (91), and likewise an important lumber processing center.(92)

By 1931 its largest enterprises were 2 sawmills, and alcohol and vodka distillery (93) still reported in operation in 1954(94), a brickyard (95) reported in operation in 1939(96), a fish cannery, an electric power plant (97) mentioned in 1939 (98), a printing press, 2 radio stations, a postal and telegraph departments.(99) A much later source mentions the post office of Nikolayevsk as connected to the general telegraph system.(100)

By 1939, the port of Nikolayevsk is mentioned as also having 2 forestry enterprises, a shipyard, a fish kombinat and an inlet for vessels.(101) By 1954, ship repair shops, a bakery kombinat, a flour mill, a sausage factory, a brewery were also reported in existence.(102)

A 1939 source reports that, the town had great perspectives of development owing to the presence in the area of iron ores that could make it a base for a possible metallurgical industry in Komsomol'sk(103)

In 1939 the port of Nikolayevsk was transformed into a maritime port and a maritime steamship line was organized there.(104)

In 1939 the area of activity of the vessels of the port of

*A 1953 source lists I.S.Zaporozhskiy as chief of the Nikolayevsk maritime port at that time.(Vodnyy Transport,No.55,8August1953, p. 3)

**According to 1931and 1939 sources, the approaches to Nikolayevsk make the direct entrance of fully loaded seagoing vessels impossible. (SSE,V.III, 1931, p. 763; BSE,V. 42, 1939, p. 123).

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Nikolayevsk extended down the Amur River to the estuary and across the Strait of Tartary to Aleksandrovsk on Sakhalin Island, to the De Kastri Bay on the continent. It also extended north to Kol' and up the Amur to Sofiysk, Lake Kizi and the Amgun' River.(105)

The chief freight originated in Nikolayevsk-na-Amure are timber products, salt fish (106) and shell fish: the principal incoming freight are rice, salt, tea, pottery and drugs and groceries.(107)

A 1926 census reports a population of 7,366 in Nikolayevsk.(108) By 1930 the population had increased to 9,500. [It must be added that during the fishing season in summer, the population increases.(109)] By 1933 the population had grown to 16,500 (110) and in 1951 it was reported to be 25,000.(111)

In 1954, Nikolayevsk, which also had a bus service in town and port boasted of 3 secondary, 2 seven-year, and 6 primary schools, a trade school, a mill and factory school, a fishery school, a navigation school and a nursing school, also a teacher's college for Northern peoples and a cinema (already in existence in 1939)(112), 5 clubs and libraries.(113)

Regular steamer communication exists with Khabarovsk, connected to the USSR railroad system; also steamer communications with Vladivostok, Sovetskaya Gavan', Aleksandrovsk and Okhotsk, as well as occasional steamer communication with Japan.*(114)

By 1931 permanent runs take place between Sretensk - Blagoveshchensk and Nikolayevsk, small seagoing vessels sailed between Nikolayevsk and Vladivostok.(115) Regular steamship communication also existed by 1939 between Komsomol'sk, Khabarovsk and Blagoveshchensk.(116)

The port of Nikolayevsk is the terminal point of sailing of river vessels. There the vessels are unloaded, supplied and documents filled out. It would be also very convenient to bunker the fleet there. But owing to inter-agency disputes, the bunkering base was built in Mago, so that each run the vessels loose 4 to 5 hours of operation time. The river vessels can and should receive the fish directly at the fish kombinat and bring it to destination without transshipment, but this is not done. The fish is first loaded in the Amur estuary (liman) unto seagoing vessels, is then shipped 100 km to Mago, there it is transshipped to river vessels. The cost of shipment is thus artificially raised.(117)

*On 1 October 1925 the port of Nikolayevsk had registered 29 steamers, 33 motor vessels and 6 sail motor boats or a total of 68 vessels with an aggregate engine power of 2,066 indicator hp and a general freight carrying capacity of 1,199 tons.

The port of Nikolayevsk also had registered to its name 3 barges and 219 small boats of different types. This made a total of 270 vessels with a total freight carrying capacity of about 4,000 tons. (Valyakhin: Nikolayevskiy-na-Amure Port, p. 104)

The above figures did not include the vessels of the Amur Steamship Line.

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There is no cooperation between the port of Nikolayevsk and the Nikolayevsk operational sector of the Amur Steamship Line. This affects the operation of the fleet negatively and raises shipping costs.(118)

Frequently disputes arise as to whether the maritime or river workers must bring barges from the outer roadstead into the port. This happens because duties are not clearly defined. The port is equipped with shops for routine repairs of vessels of the Amur Steamship Line. Yet it is not easy to order the repair of a river vessel and it takes much time and effort. During the 1955 navigation season, the steamer "Kokkinaki" demurred 24 hours for an operation that should have taken only 3 hours. The river workers ignore requests of captains of seagoing vessels.(119)

A great quantity of freight bound for Sakhalin and the Okhotsk seaboard is transshipped from river to seagoing vessels via the Nikolayevsk-na-Amure seaport during the brief navigation season.(120)

Because each pier of the port of Nikolayevsk is set aside for freight to certain destinations only, the river fleet should load freight of destinations for that particular pier, where it is then transshipped to seagoing vessels. There is an agreement between the Amur Steamship Line and the port authorities to load river barges with freight going to no more than four destinations, but nevertheless Amur River workers load the barges with freight 35% of which goes to eight or ten different points. This state of affairs causes high demurrage charges, a tieing up at four or five piers and shifting of the cargo in the hold a number of times. In the 1954 navigation season alone, some 30 barges arrived at Nikolayevsk laden with cargo bound then for 8 to 11 various destinations and some 20 barges arrived laden with cargo bound for four or five different points. These barges wasted several thousands of hours in the port before they were unloaded. (121)

Another serious cause of demurrage of the sea and river fleet is the lack of accord between the Amur and Sakhalin Steamship Lines concerning the supply of freight and tonnage. As a rule, ships arrive in groups. The port is sometimes forced to idle several days, because all warehouses are filled with cargo and meanwhile tens of laden river barges wait in the roadstead. There is no seagoing tonnage.(122)

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REFERENCE NOTES --

Chapter VI

1. BNG, p. 466.
2. Ibid.
3. SSE, V. 1, 1929, p. 351.
4. Ibid.
5. Burskiy, p. 64.
6. N. N. Baranskiy, Ekonomicheskaya Geografiya SSR (Economic Geography of the USSR), Moskva, 1952, p. 283. Abbreviated to "Baranskiy".
7. SSE, V. 1, 1929, p. 350; Turist, p. 87.
8. BSE, V. 5, 1950, p. 271.
9. Ibid., V. 2, 1926, p. 583.
10. Tarifnoye Rukovodstvo, (Handbook of Tariffs), 1954, No. 4, p . 143.
11. Pravda, 22 September 1956.
12. Vodnyy Transport, No. 20, 14 Feb 1956, p. 1.
13. Ibid., No. 57, 12 May 1956, p. 1.
14. BSE, V. 34, 1955, p. 335.
15. SSE, V. 1, 1929, p. 104.
16. BSE, V. 35, 1955, p. 335.
17. Tarifnoye Rukovodstvo, Vol. 1, 1955, pp. 134-37.
18. BSE, V. 34, 1955, p. 335.
19. Vodnyy Transport, Np. 28, 6 Mar 1956, p. 1.
20. N. Mikhaylov, Zemlya Russkaya, op. cit., p. 247; BSE, V. 33, 1938, p. 872.
21. BSE, V. 33, 1938, p. 872.
22. Ibid., V. 22, 1953, p. 318.
23. Tarifnoye Rukovodstvo, No. 11, 1955, p. 134-37.
24. BSE, V. 33, 1938, p. 872.
25. Ibid., V. 22, 1953, p. 318.

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STAT

AIR INTELLIGENCE INFORMATION REPORT

26. BNG, p. 464.

27. World Ports Index, 1953, US Hydrographic Office, Washington, D.C. p. 153.

28. US 122B,pp. 36, 54.
28a. Ibid.
29. BSE, V. 33, 1938, p. 872.

30. Ibid., V. 22, 1953, p. 318.

31. Ibid., V. ww,1938, p. 872.

32. BNG, p. 464.

33. Baranskiy, 1952, p. 283.'

34. BSE, V. 22, 1953, p. 318.

35. Vodnyy Transport, No. 96, 11 Aug 1955, p. 3.

36. Ibid.,

37. Putevoditel', p. 294.

38. SSE, V. 1, 1929, p. 720.

39. BNG, p. 465.

40. Mikhaylov, Zemlya Russkaya, p. 240.

41. Ibid., pp. 239-40.

42. Ibid., p. 239.

43. Vodnyy Transport, No. [illegible], 14 Jul 1953, p. 1.

44. Baranskiy, p. 282.

45. Ibid., p. 283.

46. Mikhaylov, Zemlya Russkaya, p. 240.

47. Baranskiy, 1953, p. 282.

48. Mikhaylov, Zemlya Russkaya, p. 240.

49. Vodnyy Transport, No. 55, 8 August 1953, p. 3; Vodnyy Transport, No. 17, 7 Feb 1956, p. 1.

50. Ibid., No. 110, 15 Sep 1956, p. 1.

51. Ibid., No. 109, 13 Sep 1956, p. 1.

52. Ibid., No. 110, 15 September 1956, p. 1.

53. Ibid., No. 131, 1 Nov 55, p. 3.

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54. Tarifnoye Rukovodstvo, 1955, No. 1, pp. 40-42.
55. Vodnyy Transport, No. 141, 1955, p. 3.
56. Ibid., No. 131, 1 Nov 1956, p. 3.
57. Ibid.,
58. Ibid.
59. Ibid.
60. Ibid.
61. Ibid., No. 96, p. 3. (11 Aug 1955)
62. Ibid.
63. Turist, p. 95.
64. SSE, V. 1, 1929, p. 107.
65. Ibid.,
66. Turist, p. 117.
67. US 122B, p. 51.
68. BSE, V. 30, 1954, p. 7.
69. BNG, p. 463.
70. BSE, V. 1, 1929, p. 98.
71. BSE, V. 42, 1939, p. 123.
72. Ibid., V. 30, 1954, p. 7.
73. US 122B, p. 51.
74. Ibid.
75. BNG, p. 462.
76. Ibid.; US 122B, p. 51.
77. US 122B, p. 51; BNG, p. 462.
78. BNG, 462.
79. US 122B, p. 51; BNG, p. 462.
80. US 122B, p. 51.
81. BNG, p. 462.
82. US 122B, p. 51; BNG, p. 462.
83. US 122B, p. 51.

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84. BNG, p. 462.

85. US 122B, p. 51; BNG, p. 462.

86. World Port Index, 1953, p. 152.

87. Burskiy, p. 67.

88. Ibid., SSE, V. III, 1931, p. 763; BSE, V. 42, 1939, p. 123.

89. BNG, 462.

90. US 122B, p. 51.

91. BNG, p. 463.

92. BSE, V. 42, 1939, p. 123.

93. SSE, V. III, 1931, p. 763.

94. BSE, V. 30, 1954, p. 7.

95. SSE, V. III, 1931, p. 763.

96. BSE, V. 42, 1939, p. 123.

97. SSE. V. III, 1931, p. 763.

98. BSE, V. 42, 1939, p. 123.

99. SSE, V. III, 1931, p. 763.

100. BNG, p. 463.

101. BSE, V. 1939, p. 123.

102. BSE. V. 30, 1954, p. 7.

103. Ibid., V. 42, 1939, p. 123.

104. Ye. V. Kryuchkov & I.I. Sivenko Nizhne-Amurskaya oblast' (Lower Amur Oblast'), Khabarovsk, 1940, p. 59. Abbreviated to "Nizhne-Amurskaya Oblast'".

105. Ibid.

106. SSE, V. III, 1931, p. 763; BNG, p. 463.

107. BNG, p. 462.

108. SSE, V. 1, 1929, p. 720.

109. Ibid., p. 763.

110. BSE., V. 42, 1939, p. 123.

111. BNG, p. 463.

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.—31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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112. BSE, V. 42, 1939, p. 124.

113. BSE, V. 30, 1954, p. 8.

114. BNG, p. 463.

115. SSE, V. III, 1931, p. 763.

116. BSE. V. 42, 1939, p.123.

117. Vodnyy Transport, No. 16, 4 Feb 1956, p. 2.

118. Ibid.

119. Ibid.

120. Ibid., No. 31, 12 Mar 1955, p. 2.

121. Ibid.

122. Ibid.

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CHAPTER VII. FREIGHT TRAFFIC ON THE AMUR RIVER

STAT

A. General Remarks

B. Development of Freight Traffic on the Amur River

C. List of Landing Stages and Ports situation on Railroads

D. Types of Freight Shipped on the Amur

1. Petroleum
2. Coal
3. Timber
4. Mineral Building Materials
5. Metals
6. Grain
7. Salt

E. The Amur Steamship Line

1. Range of Operation
2. Push-towing on the Amur River.
3. Problems and Shortcomings
4. Passenger Traffic

A. General Remarks

The Amur River and its large tributaries are of great economic significance in the Soviet Far East and for a long time were the only means of communications in the area. Moreover, the Amur is the only Far Eastern River navigable on its whole extent.[1] Its tributaries branch out very extensively and its population is of a purely fluvial type so that the river system covers most of the populated places.[2]

The freight carried on the Amur River is mainly of the bulk type, comprising primarily timber, petroleum, coal, building materials, metals, grain, salt and foodstuffs, machinery and fish,[3] for the Amur River contains more known varieties of fish (99) than any river in the Soviet Union.[4] Foodstuffs brought from the West by rail, salt, grain and manufactured goods sail downstream.[5]

Sakhalin petroleum and petroleum products, fish and fish products from the fisheries of the Amur and the Pacific Ocean seaboard, and timber and coal sail up the Amur to points of destination.[6]

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B. Development of Freight Traffic on the Amur River.

In 1904-1908, freight traffic in the Amur River basin amounted to 400,000 tons and in 1913 it had risen to 1,200,000 tons.[7]

World War I reduced sharply freight traffic on the Amur River basin for in 1915 it amounted to 226,000 tons and in 1923 had dropped to 88,500 tons. (for the Amur River only probably)[8]. In the following year freight traffic on the Amur River appears to have suddenly risen to 330,000 tons (perhaps for the whole basin)[9*].

In 1934 freight turnover increased 300% over that of 1923.[10]

In 1935 freight turnover was 187% higher than in 1934

In 1936 212%

In 1937 290%

In 1938 387% [11]

In 1939 according to incomplete data from the beginning of the navigation season to September of that year, freight turnover was already 416% over that of 1934.[12]

C. List of landing stages and ports in the Amur River Basin situated on railroad lines.

Name of landing stations (ports) and steamship lines.	Location of landing stages (ports	Name of station and RR
Blagoveshchensk (Amur SSL)	Amur River	Blagoveshchensk (Amur RR)
Komsomol'sk (Amur SSL)	"	Komsomol'sk (Far-East RR)
Leninskoye (Amur SSL)	"	Leninsk(or Leninskoye) (Amur RR)
Poyarkovo (Amur SSL)	"	Poyarkovo (Amur RR)
Sretensk (Amur SSL)	Shilka R.	Sretensk (trans-Baykal RR)
Surazhevka (Amur SSL)	Zeya River	Mikhaylo-Chesnokovskaya (Amur RR)
Khabarovsk (Amur SSL)	Amur River	Khabarovsk (Far-East RR) [13]

*A little further, the same source states that in 1923, the vessels of the Amur State Steamship line carried 98,000 tons of various type freight, in 1924,114.000 (excluding the Selenga River), in 1923 , the rivers of the Amur basin carried 92,000 tons and in 1924,108,000 tons of freight.

In 1925, the vessels of the Amur Steamship Line carried 107,000 tons of freight. (BSE, v.2, 1926, p.566)

In 1923, the fleet of state organs and privately owned craft carried 27,000 tons, in 1924, 13,500 tons and in 1925, 11,000 tons of freight. (BSE, v.2, 1926, p.566)

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D. Types of Freight Shipped on the Amur River.

1. Petroleum

River haulage on the Amur of Sakhalin petroleum* decreased sharply after construction of the oil pipeline.** Future river hauled petroleum shipments can increase only through transport of products of local petroleum refineries and by shifting from rail to water haul the petroleum products shipped from the West to the Okhotsk seaboard and Kamchatka.[14]

Transshipment from rail to water haul in Blagoveshchensk of petroleum freight bound for river points not connected by railroads would liberate over 1,000 km of railroad and mixed rail and water haul via Blagoveshchensk would cost less than all rail shipments in a direction parallel to the Amur River.[15]

As Eastern Siberia has to import petroleum products either from Baku or from Sakhalin, production of synthetic liquid fuel is of particular significance in Siberia. In this connection, the brown coals existing in Sakhalin could serve to produce this liquid fuel and thus help decrease the costly imports of petroleum products from distant areas.[16]

2. Coal

The main coal basins in Eastern Siberia are located in the southern part of the Primorskiy Kray, on Sakhalin Island and along the Bureya River[17] where development of the Bureya coal basin was started after the war[18].

According to a 1955 source, coal shipments on the Amur River comprised by that time only 2% of all river hauled coal shipments[19]*** and were expected to increase greatly during the 6th Five-Year Plan[20]. Already in 1956 they were scheduled to increase 91%.[21]

Raychikihinsk coal is shipped on the Amur River and transshipped from rail to water in Poyarkovo and Artem coal in the Primorskiy Kray is shipped northward to the Amur River and then transshipped from rail to water in Khabarovsk.[22]

In 1954, mixed rail and water shipments of Raychikhinsk coal on the Amur River to Khabarovsk and Komsomol'sk accounted for only 3% of the total coal shipments. Furthermore, as late as 1955, the Amur River had no port properly equipped to handle coal transshipment operations and no enterprise on the Amur River, using Raychikhinsk coal, could receive it from river haul, because there were no piers or necessary unloading equipment. Therefore, all important consumers

*In 1938, petroleum shipments from Sakhalin had increased 5.5 times as compared to 1934. (Ye.V. Kryuchkov & I.K. Sivenkov, p.57)
**See Introduction, p.1, footnote.
***Inefficiency may have been at least partly responsible for this low percentage, for in July 1955, the "Vodnyy Transport" newspaper complained that by the first half of July, the Amur Steamship Line had fulfilled only 37% of its coal shipping plan. (N. Vodnyy Transp. No.86, 19 July 1955, p.4, c.1.)

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could receive their coal only by railroad, and in 1955 it was suggested in an article published in "Zheleznodoroznyy Transport" periodical that it was high time for a coal transshipment port to be built in Poyarkovo[23].

Raychikhinsk and Artem coals contain a high percentage of humidity and require additional air to burn completely. Steam blowers have therefore been installed on vessels sailing on the Amur Steamship Line. Vessels equipped with water tube boilers have been provided with air blowers like those in use in the Dnepr Steamship Line and permitting efficient burning of low grade coals.[24]

Unfortunately, landing stages supply vessels indiscriminately with any coals available and Artem coal, twice as expensive as Raychikhinsk coal, is thus frequently supplied instead of the latter.[25]

In Nikolayevsk na-Amure, vessels are fuelled with highly calorific and expensive Sakhalin coal. When this is used in furnaces equipped with blowers intended for Raychikhinsk coal, the excessively high temperature frequently, allowed in the furnace, causes gratings and furnace deflectors to burn. During the 1954 navigation season for instance, these gratings had to be changed twice on the "Mao-Tse-tung", "Yerevan" and "Furmanov" steamers.[26]

Coal storage at bunkering bases is also disorganized and coals of different origins are mixed thus making it very difficult to determine what percentage of what grade is contained in the coal supplied to a vessel. Arguments, superfluous correspondence and loss of coal result.[27]

Steam superheating on vessels could be the most effective method to reduce fuel consumption, but this method is not used.

In 1955, 47% of the fleet operated on saturated steam although their machinery calls for overheated steam. The steamship Line includes each year in its plan of modernization of the fleet, the installation on a series of vessels of steam super heaters and each year the plan is not carried out because of the lack of pipes of required diameter. Repeated requests for such pipes made by the Glavsnab of the Ministry of the River fleet are not complied with. Yet transfer of the fleet to work on overheated steam would reduce fuelling expenses by 1,000,000 rubles per year.

Mass production of such steam super heaters installed in fire tubes for steam boilers of 85 to 120 sq m heating surface should be started in one of the enterprises of the Ministry of the River fleet. This would drastically reduce fuel expenses.[28]

3. Timber

Timber felling in the Amur oblast' and the Khabarovsk Kray is developed mainly in the areas adjacent to railroads. The large timber reaches in areas adjacent to waterways indicate a possibility for a considerable increase in timber shipments along the Amur River to supply Blagoveshchensk, Khabarovsk and Komsomol'sk and other ports of the lower Amur.[29]

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The economic development of the Far East moreover requires large shipments of timber to Kamchatka, the Okhotsk seaboard, Sakhalin and the Kurile Islands.[30] During the past few years, in the Barents Sea and in particular in the Far East, seagoing tugs yearly have been towing several rafts for considerable distances, for instance from the estuary of the Amur River to Kamchatka, the Okhotsk seaboard and so on. The successful trip with such a tug depends on the quality of the timber rafting, the size of the raft, the hydrometeorological conditions and the motor power of the tug boat.[31]

A handicap to further expansion of river hauled shipments of timber according to Zakhvatov, chief of the Amur Steamship Line, are high tariffs that make shipments of timber by river more expensive than by rail.[32]

4. Mineral Building Materials

The reserves of building materials in the Eastern Siberia have so far been adequately surveyed only in the zone adjacent to the Siberian trunkline, yet almost every type of natural building materials and raw material for their production are known to exist there. This is a significant factor, considering the remoteness of the area from the main industrial centers of the country. There is also a rich cement raw material base. Sand and clay formations, limestones, dolomites and volcanic rock (pumice stone and lava) lie in the basins of the Zeya and Bureya rivers and in the lower reaches of the Amur River.[33] Eruptive and metamorphic rocks predominate. There is a sufficiently important base for the building materials industry (rubble stone, crushed stone, facing material and binding materials.[34]

Building materials are shipped on the Amur River Basin to the construction works of Khabarovsk (sand and building stone). But in 1955, shipments of building materials in the Amur River basin accounted for over 2% only of all river hauled shipments of building materials.[35]

5. Metals

Development of metallurgy in the Amur area and the improvement of navigation routes is to help greatly to expand metal shipments on the Amur River in the near future.[36]

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Eastern Siberia has long been known as a source of lead, silver and tin. (Baykal area). It is now one of the most important tin producing areas. The trans-Baykal combination of natural mineral resources is one of the most interesting geochemical centers of the USSR. It is estimated that a "second Altay" may possibly be located there. A region unique for its hydropower resources, Eastern Siberia promises to develop into a center of non-ferrous metals production.37

Heavy metallurgy shows likewise signs of further development, for iron ores are found in the mountains of the Malyy Khingan Range, in the Jewish Autonomous oblast', in the lower reaches of the Amur River and around the Bay of St. Olga in the Primorskiy Kray.38 Herald of future developments is the "Amurstal" (Amur Steel) Plant in Komsomol'sk that started to operate during the war and produces steel from scrap metal.39

6. Grain

Grain and other agricultural produce grown in the Zeya-Bureya plain are shipped on the Zeya, Bureya and Selemdzha rivers and other tributaries of the Amur River.40

Siberian grain is shipped by rail to the Soviet Far East. If grain were transhipped at Khabarovsk to the Amur River, it would be a realization of the planned mixed rail and water haul of the commodity.41

7. Salt

The expanding fish industry requires always more use of salt. Imported salt, apart from being expensive because of transport costs, cannot satisfy the growing requirements. Rock salt was discovered in 1914 in the Lower Amur area among limestones on the slope of a cliff 8 km from the Vlas'yevka village, on the Bol'shaya Iska River (12 km from the estuary on the left bank). The saltpetre layer is of reddish hue, becoming whiter and almost translucent as the depth increases. The 1st World War stopped surveys that were not resumed as late as 1940. There are also indications on the presence of salt in the area of the Maya River. The geological structure of the basin of the Maya River is similar to that of the basin of the Vilyuy River, rich in salt deposits.42

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E. The Amur Steamship line

1. Range of Operation

The Amur State Steamship Line was organized in 1920 to be composed of former government vessels and of vessels confiscated by the government of the Far Eastern Republic. There was no general nationalization of the Fleet in the Amur River basin.[43]

In 1926, the Amur State Steamship Line spread its activity on the entire Amur River basin (In 1923-24 it operated likewise in the Selemdzha (or Selenga) River basin). The main runs in 1924 - 1925 were the following:

- Shilka and Amur rivers, from Sretensk on the Shilka River to Blagoveshchensk on the Amur River.

- Amur River proper, from Blagoveshchensk to Nikolayevsk.

- Zeya River, from Blagoveshchensk on the Amur River (at confluence of the Zeya River) to Bomnakskiy sklad, on the Zeya River.

- Zeya and Selemdzha Rivers, from Blagoveshchensk on the Amur River upstream the Zeya and to Ekimchan on the Selemdzha River.

- Amur and Bureya rivers, from Blagoveshchensk on the Amur River to Chekunda on the Bureya River.

- Amur and Amgun' rivers, from Nikolayevsk on the Amur River upstream the Amgun' River to Kerbi.

- Ussuri River, from Khabarovsk on the Amur River, upstream the Ussuri to Iman.[44]

On 1 January 1925, the Amur Steamship Line had under its jurisdiction 57 steamers of 16,095 indicated hp, and 71 non-steam powered vessels of a 31,568 tons freight carrying capacity.[45]

Already at about that time (a little later, 1926), the fleet of the Amur Steamship Line was almost completely metallic but considerably out of date and requiring basic repairs to operate.[45]

By 1928, the Amur State River Steamship Line had under its jurisdiction almost the entire river fleet of the Far Eastern Kray.[47]

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There were the following ship-line runs at that time:

Name of runs	Distance in Km	Number of runs per navigation
Sretensk - Blagoveshchensk	1,290	-
Blagoveshchensk - Nikolayevsk na Amure	1,948	33
Blagoveshchensk - Norskiy sklad	491	24
Norskiy sklad - Ekimchan	320	No schedule
Blagoveshchensk - Zeya	658	48
Olochi - Pokrovka	421	No schedule
Khabarovsk - Ivankovtsy (Urmi river)	227	-
Khabarovsk - Iman	404	42
Nikolayevsk-na-Amure - Kerbi	492	12

48

In 1928, the most active lines were the Sretensk - Blagoveshchensk - Nikolayevsk, Blagoveshchensk Zeya town and Blagoveshchensk - Ekimchan to Norskiy sklad (supply center)[49]*

The Sretensk - Blagoveshchensk - Nikolayevsk line connects Sretensk with Blagoveshchensk, historic center of the colonization of the Amur region, industrial and trade center for grain and flour commodities, Khabarovsk, the political center of the Far Eastern Kray, and Nikolayevsk, its fishing industry center.[50]

The runs Blagoveshchensk - Zeya (town) and Blagoveshchensk - Ekimchan - Norskiy sklad served in 1929 as permanent communication route for Blagoveshchensk and the gold producing areas situated in the tributaries of the upper reaches of the Zeya and Selemdzha rivers. All supplies were brought there by steamers during the summer to places closest to the mines. During the winter further haulage and distribution to most remote points was done by sleds.[51]

The irregular steamship runs on the Bureya from Blagoveshchensk to Chekunda, the regular runs on the Amgun' River and the Nikolayevsk - Kerbi supplied mainly freight to the gold mining areas located on their route. The Argun' River route, from Pokrovka, at the confluence of the Shilka and the Argun' rivers, the beginning of the Amur

*In 1928, the trip by steamer up the Zeya River during the high water season, from Blagoveshchensk to Ekimchan took 9 full days. During the low water season, it took 7 full days to make the trip to Stoyba (350 km) and sometimes only to Portovyy Sklad (?00 km) it took 4 full days, and thence to Ekimchan it took 3 to 8 full days by canoe. From Ekimchan to the gold mines was about 70 km on foot or 1 to 2 days on horseback. (Turist, p.88)

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River proper, to Olochi, upstream the Argun' river, was at that time served by occasional runs. Traffic on the Ussuri River, on the Khabarovsk - Iman line was of a suburban character.[52]

At that time also, and the situation does not appear to have changed greatly since, the waterways of the Amur River basin served mainly as local means of communication in an area otherwise devoid of sufficient means of transportation, and only the main waterway, the Amur River itself, had an outlet through the port of Nikolayevsk in its lowest reaches.[53]

Much later, in 1949, the Administration of the Amur River State Steamship Line had not expanded to cover more territory, for by that time it operated on the following waterways: Shilka River, from Sretensk, Amur River, from Pokrovka (confluence of Shilka and Argun' rivers) to the estuary, Zeya River from Surazhevka to the estuary, Ussuri River and Amgun' River.[54]

In 1949, the Administration of the Amur River Steamship Line* was located in Khabarovsk, the Administrative center of the Far Eastern area.[55]

2. Push-Towing on the Amur River.

During the 1955 navigation season, the Amur River Steamship Line exceeded the freight and passenger shipment plan, reduced transport costs and realized several million rubles of profits above the plan.[56]

The use of push towing of vessels speeded up considerably freight shipments increasing speed by 15-20%. During 1955, almost half of all freight was shipped by push towing.[57]

The operation service of the line under Bodogayko and Krivosheyev, showed little initiative in introducing these progressive methods of navigation. The various branches of the administration of the line do not yet operate in smooth agreement.

The steamship line had spent 1 1/2 million rubles to re-equip vessels for pushing, and yet by 1955, on many vessels the work was not completed. The workers of the machine-vessel service of the line are responsible for this inefficiency. If re-equipment had been completed on time, the transit fleet would have transported 2 - 3 times more freight by the pushing method.[58]

Cost of freight shipments by push towing is reduced if the pushed vessels (barges) are without their own crews and are served by the crew of the pusher tug.[59]

By using push towing in mineral building materials shipments, and without barge crews, the Khabarovsk port saved 300,000 rubles during

*Zakhvatov was chief of the Amur Steamship Line in January 1956. (N: Vodnyy Transport, No.13, 28 January 1956, p.3, c.1-8).

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the 1955 navigation season. Push towing is to become even more widespread in 1956 on the Amur River.60

But owing to inefficiency in the Amur River Steamship Line Administration, and despite the numerous advantages of push towing of crewless barges, barges not usable for push towing are still being built in the Amur River basin and the administration should be brought to realize that push towing must be encouraged further by concrete measures, and steamers and motor vessels must be equipped for push towing.61

3. Problems and Shortcomings

In spite of numerous shortcomings and inefficiency, the Amur Steamship Line fulfilled ahead of schedule the navigation plan in tons by 116.5% and in ton/km by 100%.62 Through runs down the Amur River to Sakhalin Island without transshipment in Nikolayevsk-na-Amure were started for the first time in the 1955 navigation season. The Amur Steamship Line saved 15,000,000 rubles above the planned savings. Tens of thousands of additional tons were to be shipped by the Amur River workers in honor of the XXth Session of the Communist Party of the USSR.63

On 22 October 1955, the "Vodnyy Transport" newspaper stated that the Amur Steamship Line had fulfilled ahead of schedule the navigation plan in tons and ton/km., but according to the "Amurskiy Vodnik" basin newspaper, in the ports of Moskal'vo and Nikolayevsk, many laden vessels were then demurring because their handling was very slow. The workers of the Nikolayevsk exploitation sector should increase their demands of the customers and workers of the maritime ports. It is likewise necessary that freight handling at the piers of the port of Khabarovsk be speeded up.64

The Amur Steamship Line, like all steamship lines, has to solve the problem of simultaneous freight hauling, freight moving and tonnage in order to transship freight directly. This requires close cooperation between railroad, steamship line and the port.65

To solve this problem, for Khabarovsk port, for instance, the Khabarovsk division of the railroad should provide through its Pokrovka-Pristan' station complete information about the numbers of railroad cars available at the approach lines to railroad stations, the types of freight to be transshipped, etc. The station that forms the train groups for the transshipment point (Molotovo station in this case) should present precisely the railroad cars indicated in the declaration of the Pokrovka sector of the port of Khabarovsk. But this order is not maintained.66

The director of the Amur Steamship Line should pay close attention to the specialization of transshipment points so that transshipment points handle freight of determined destination with the number of destination points reduced to a minimum.67

Another factor in the prevailing inefficiency is the large turnover of workers.

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The freight handling personnel and even master lumberjacks, who are floating timber, are seasonal occupational. On the Amur River, according to its chief, Zakhvatov, 706 loaders and commercial workers were dismissed (at the end of the season) owing to lack of housing even though they were willing to continue working for river transport.[68]

On 11 August 1955, the "Vodnyy Transport" newspaper complained that although the Khabarovsk River port, the Sretensk, Blagoveshchensk and Komsomol'sk and other landing stages had improved their work, numerous shortcomings still existed and demurrage of vessels, particularly of barges, was still very prevalent in the Amur River Steamship Line.[69]

In June 1955, out of 232 barge trains to be shipped according to plan, 96 failed to be sent. The fault lay with the Khabarovsk port and landing stages that did not provide timely loading of barges and also with the various sections and services of the Steamship Line that did not ensure the declaration of freight by customers, and timely assembly of crew and vessels.[70]

According to the same source, the dispatcher apparatus is supposed to play an important part in fleet operations, but some dispatchers infringe the fleet movement schedule, permitting a frequent reformation of barge trains during runs, and exercising an insufficient control of the movement of vessels according to schedule.[71]

Moreover, the same source continues further, Medvedev, the chief of the department of cadres of the Administration of the Steamship Line is not efficient enough. A series of vessels still is short of crew. Criticisms help little. Seagoing lighters whose performance was to decide in great measure the fulfillment of freight shipment plans to Sakhalin and to the Okhotsk seaboard left in August for a run with a crew short of half its required number on some of them.[72]

The commercial work on the Amur Steamship Line (Head of that section Semyannikov) is not satisfactory. Little effort is being made to realize accords with customers. The line was to ship 2 barges with cement to Sakhalin, but this was not done, although the barges were brought for loading. During the first half of July, only a few timber rafts were received in the Lower Amur. The plan of raft towing is not fulfilled. Customers complain that the Amur Steamship Line delays the shipment of express freight that lies in the port and landing stages.[73]

4. Passenger Traffic

As of 1955, 62% of the vessels of the Amur Steamship Line were of 1893-1913 construction and therefore quite out of date.[74]

Many of these vessels were by then beyond repairs, as the cost of the latter would amount to the cost of building a new vessel.[75]

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As an instance, cost of rehabilitation of the "Il'yich" steamer equalled that of building a new vessel and the date of the resumption of its operation was deferred several times and was still unknown as of 4 Aug. 1955. Cost of repairs to the "Chicherin" and the "Komintern" proved 2 to 3 times higher than the cost of construction of a new vessel of the "V. Chkalov" or "Baykal" type.[76]

The problem of the prohibitive cost of repairs is aggravated by the fact that ship repair enterprises are already overloaded with work because of the increase in the number of tugs, self-propelled freighters and barges[77] and cannot spare much time for the repair of passenger vessels.

No passenger vessels have been added to the passenger fleet of the Amur River in the past 15 years. Part of the vessels available have meanwhile actually ceased to operate because of their being worn out and therefore their number decreased from 1940 to 1955.[78]

A result of the shortage of passenger vessels has been that on almost all East Siberian Steamship Lines, and the Amur River particularly, passenger vessels are greatly overcrowded and passengers have to occupy decks, terraces and passages on the ships, against all rules of passenger transport.[79]

Shortage of vessels, landing facilities on the Siberian Steamship Lines has caused passenger traffic to decrease sharply since 1940, especially on the Amur Steamship Line.[80]

The number of passenger lines and the distance of their runs was greatly curtailed in a series of Siberian lines and even stopped entirely on some sectors. On the Amur Steamship Line, the Sretensk - Blagoveshchensk postal and passenger line has been closed and the Argun', Bureya, Selemdzha rivers are not being serviced.[81]

The only passenger river terminal in the eastern steamship lines in Siberia is the one in Krasnoyarsk on the Yenisey River, and even this one also serves as the headquarters for the Yenisey Steamship Line Administration. There is no passenger terminal so far in Khabarovsk, on the Amur River.[82]

On non-working days, tens of thousands of workers crowd the landing stages of Khabarovsk, waiting to be transported out of town.[83]

In August 1953, it was suggested that the Giprorechtrans should include in its plan the project of building a river terminal in Khabarovsk to remedy the situation.[84]

Moreover, the cost of passenger transport is reported to be too expensive to encourage travellers. This factor was pointed out by Zakhvatov, chief of the Amur Steamship Line, during a conference of river workers held at the Ministry of the River fleet from 23 to 25 January 1955. According to Zakhvatov, the passenger tarifs on many passenger lines make a river trip cost considerably more than a motor trip.[85]

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REFERENCE NOTES

CHAPTER VII

1. Liver. & Kol. p. 112
2. BSE, V. 2, 1926, p. 559
3. Popkov, 1955, p. 307
4. Murzayev, p. 129
5. BSE, V. 2, 1950, p. 308, c. 1
6. Ibid.
7. Ibid.
8. Ibid.
9. Ibid., p. 561
10. Nizhne-Amurskaya oblast', p. 56
11. Ibid., p. 57
12. Ibid.
13. Tarifnoye Rukodovodstvo, No. 1, 1955, pp. 134-37
14. I. F. Solov'yev, Planirovaniye Perevozok gruzov rechnym transportom (Planning of River Hauled Freight Shipments), Moskva, 1955, Abbreviated to "Solov'yev". p. 59
15. Ibid.
16. P. N. Stepanov, Geografiya Promyshlennosti SSR (Geography of Industry of USSR), 1955, p. 61. Abbreviated to "Stepanov".
17. S. V. Chefranov, Geografiya SSR (Geography of the USSR), Moskva, 1955. Abbreviated to "Chefranov", pp. 19, 21.
18. Stepanov, p. 73
19. Solov'yev, p. 61
20. Vodnyy Transport, No. 9, 19 January 1956, p. 1, c. 2
21. Ibid, No. 28, 6 March 1956, p. 1, c. 1
22. Zheleznodorozhnyy Transport, No. 9, Sep. 1955, p. 35; also Solov'yev, p. 61
23. Ibid., p. 33, 35
24. Vodnyy Transport, No. 22, 19 Feb. 1955, p. 3, c. 5
25. Ibid.
26. Ibid.
27. Ibid.
28. Ibid.
29. Solov'yev, p. 57
30. Vodnyy Transport, No. 35, 22 March 1955, p. 3, c. 5-6
31. V. A. Kushnarev, Morskaya Praktika na sudakh rybnoy promyshlennosti (Maritime Practice on Vessels of Fishing Industry), Moskva, 1954, Part II. Abbreviated to "Kushnarev"; p. 101
32. Vodnyy Transport, No. 13, 28 January 1956, p. 3, c. 1-3
33. Stepanov, 1955, p. 222
34. Ibid.
35. Solov'yev, p. 68
36. Ibid., p. 70
37. Stepanov, p. 138
38. Ibid., p. 120
39. Ibid., p. 120
40. BSE, V. 2, 1950, c. 1, p. 308
41. Solov'yev, p. 64
42. Nizhne-Amurskaya oblast', p. 20

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43. BSE, V. 2, 1926, p. 566
44. Ibid.
45. Ibid.
46. Ibid.
47. Burskiy, p. 63
48. Ibid.
49. Ibid.
50. Burskiy, p. 63
51. Ibid., p. 63
52. Ibid., p. 64
53. Ibid.
54. Spravochnik po Tarifam Rechnogo Transporta (Handbook on River Transport Tariffs), Moskva, 1949, p. 157
55. Ibid.
56. Promyshlenno-ekonomicheskaya gazeta (Industrial and Economic Journal) 15 Apr 1956, No. 33, p. 2, c. 3
57. Ibid., p. 3, c. 3
58. Vodnyy Transport, No. 96, 11 Aug 1955, p. 3, c. 3
59. Promyshlenno-ekonomicheskaya gazeta, No. 33, 15 Apr 1956, p. 2, c. 3
60. Ibid.
61. Ibid.
62. Vodnyy Transport, No. 123, 13 Oct 1955, p. 1, c. 1-2
63. Ibid.
64. Ibid., No. 127, 22 Oct 1955, p. 3, c. 2
65. Ibid., No. 131, 1 Nov 1955, p. 3, c. 4-6
66. Ibid.
67. Ibid.
68. Ibid., No. 9, 19 Jan 1956, p. 1, c. 1-3
69. Ibid., No. 96, 11 Aug 1955, p. 3, c. 1
70. Ibid.
71. Ibid.
72. Ibid.
73. Ibid.
74. Ibid., No. 93, 4 Aug 1955, p. 3, c. 1
75. Ibid., c. 2
76. Ibid., No. 93, 4 Aug 1955, p. 3, c. 2
77. Ibid.
78. Ibid.
79. Ibid.
80. Ibid.
81. Ibid.
82. Ibid.
83. Ibid.
84. Ibid.
85. Ibid., No. 13, 28 Jan 1956, p. 3, c. 1-3

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PROJECTED DEVELOPMENTS

Chapter VIII - Supplement

This chapter was added . as a supplement to the report in connection with a very informative article published in the May 1957 issue of "Rechnoy Transport" (River Transport, pp. 9-11) under joint Russian-Chinese authorship on the subject of more recently projected changes and developments in the Amur River basin, based on agreements reached between the USSR and China.

In consequence of the agreement between the Government of the Peoples Republic of China and the USSR, of 18 August 1956, the Academies of Sciences of both governments started the joint study of the basin of the Amur River in order to determine not only the transport and power possibilities of the river, but likewise to solve a series of economic problems.

At present the development of transport and power possibilities in the Amur River basin and their significance for the economy of the USSR and China are being mainly stressed.

The Amur River basin is characterised by an extremely irregular precipitation, of which some 90% fall as rain during the navigation period and 45 to 50% of this volume in July and August. This causes irregular and frequent floods that even without coinciding on the different tributaries, inundate the border areas of both countries. Although the floods would appear to favor navigation by raising the water level on the shoals, observations carried out over many years have shown that only 85 to 95% of the shoals are covered by minimum navigation depths.

The duration of the navigation period varies in the basin from 165 to 205 days according to area.

The varying minimum navigation depths and duration of the navigation season in various sectors of the basin render impossible the full utilization of the freight carrying capacity of the heavy tonnage freighter fleet during the low water season. As a result the fleet works only on determined sectors.

River haul is considerable on the Amur, Zeya, Sungari, Nonni and Ussuri rivers. But for the USSR river hauled shipments on the Amur River account for only 6% of the total volume of freight carried by other means of transportation in this area, while river haul is the main type of transportation for the Chinese Peoples Republic.

In 1955 the share of the C[illegible] in the Amur River traffic was 2.5% and in the Sungari River traffic it was 97.5%. By 1967 the freight traffic on the Amur River is to increase some 22-fold. The main freight carried by the Hei lung-Chiang (Amur River) Steamship Line of the CPR consists of timber, grain, salt, metal, coal, industrial goods and foodstuffs and mineral building materials. The creation of a through inland waterway from the Amur River to the Whangpoo River (where the port of Shanghai is located) with the inclusion of the

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projected Sungari - Liao - ho canal and the Great Chinese Canal, is of great importance for the supply of timber of the central areas of the CPR.

The rapid development of industry and agriculture in the north-eastern areas of the CPR and the guarantee of considerable freight exchanges within the country and also in cooperation with the Soviet Union. An example of such cooperation could be the creation of a complete metallurgical cycle at the Amurstal'" (Amur Steel) Plant in Komsomol'sk, coking coal being supplied by river via the Sungari and Amur rivers from the Ho Kang mines in the CPR. (about 30 km north of Chia Mu-ssu).

The Amur Steamship Line carries timber, mineral building material, coal, petroleum products and consumer goods. In 1955, rafts accounted for 40% in tons and 30% in ton/km of the total volume of shipments, while dry cargo goods accounted for 41 and 40% respectively. The main bulk of dry-cargo shipments consists mineral building materials transported as a rule on short distances within the area of a port or from landing stages under the jurisdiction of a port.

In the near future, shipments of timber and mineral building materials are to increase sharply. The projected construction of hydropower developments in the area of Zeya town along the Zeya river and in the area of the Dzhalinda landing stage on the Amur River will require considerable timber collecting and timber clearing works in the area flooded by the reservoirs.

Construction of hydropower developments on the Zeya River, the upper Amur and the Amur in the Khingan area will create favorable conditions for the development of production and therefore will help increase freight and passenger shipments. The type of freight carried will likewise change. Shipments of building materials, foodstuffs and industrial goods and raw materials for the industrial enterprises on the river are to increase. Shipments of coal will drop because most enterprises will receive cheap electric power. River hauled shipments of petroleum and petroleum products will likewise decrease somewhat as this freight will be carried by pipelines.

Construction of hydropower developments and the formation of reservoirs will cause new river carrier requirements.

The steamship line has now a considerable number of old vessels. The addition of new vessels will not only increase the quality of the fleet performance but likewise will improve its operational condition and facilitate repair because of reduced dimensions of the vessels. New types and sizes of vessels are now being designed for varying sailing conditions, including mixed river and sea navigation. Taking into consideration the fueling conditions in the Amur River basin, the main type of power installations foreseen for 1970 are internal combustion engines for vessels of the Amur Steamship Line and steam engines for vessels of the Hei-lung-chiang steamship line. The number of self-propelled freighters is likewise to increase considerably thus allowing to speed up the supply of freight for the national economy.

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The qualitative modification of the fleet will be a serious factor in the increase of the proportion of river haul in the total volume of freight shipments in the Soviet Far East and in the North-East of the CPR. But to achieve this it is indispensable to first create a complete coordination between the technical development of the fleet and the ports, and to so coordinate the operation of the transport means including shipments by mixed carriers as to exclude entirely disruptions in traffic schedules.

The Amur River basin has over 560 ports, landing stages and riverside stops but only 30 of these can be considered ports (landing stages) of the first or second category as to freight turnover or technical equipment.

The technical condition of the piers, freight handling machinery, warehouses and approach tracks cannot in many cases be considered satisfactory. The freight sectors of the ports of Khabarovsk, Kharbin, Chia-mu-ssu and others are an exception.

The wooden piles or crib walls in a series of ports are heavily camaged owing to periodical and frequent change in the water levels and their mere reconstruction would be hardly logical. In a series of places the freight handling operations take place at the natural edge of the water. Mechanization of freight handling operation is not widespread and in some points all freight handling is done by hand. Warehouse construction is poorly developed. In the port of Tun-chiang for instance, grain freight is stacked in open areas. Part of the roofed warehouses is flooded by freshets (Blagoveshchensk - city sector; Khabarovsk - Pokrovka, and others).

In order to increase freight turnover and the quality of the fleet performance the existing ports should be rebuilt and new ones built.

A large port should be built in the area downstream from the hydro-power development near the Dzhalinda landing stage and simultaneously the transit and transport capacity of the Skovorodino-Raynovo rail-road line should be reinforced. The new port would receive freight from the railroad with transshipment to river haul to supply areas adjacent to the upper and middle Amur and to the Ussuri. This would reduce the part played by Blagoveshchensk as transshipment base. but would also lower freight shipment costs, because of the con-siderable reduction of railroad traffic.

The Poyarkovo landing stage should be transferred to the estuaty of the Bureya River and a railroad line should link it to the Raychikhinsk coal basin. This would reduce railroad shipments by 50 km, thus lowering also the cost of coal shipments in mixed transport.

By 1967 the freight turnover of the new port of Hei-ho should increase 50-fold as compared to 1955. Putting into operation of the Nun-chiang Hei-ho railroad line will ensure not only the passage of main freight flows through this port but will also reduce operational transport costs.

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In the Ussuri River basin, the port of Hu-t'ou will have great importance. The railroad line Mi-shan--Hy-t'ou will allow the passage of bulk freight in mixed shipments through this port. According to preliminary estimates, the freight turnover of the port of Khutou may grow over 100-fold.

Of important significance for the development of productive for ces and the increase of the meaning of river haul in the Amur River basin are the artificial navigable waterways linking the Amur River to maritime points on the Pacific Ocean seaboard. The technical feasibility of the following waterway projects is now being studied:

1. Amur River - Sungari River - Sungari Canal - Liao-ho - Liao-ho River - Liaotung Bay of Yellow Sea;

2. Amur River - Ussuri River - Sungacha River - Khanka Lake - Lefu River - Canal through watershed of basin of Lefu and Suyfun rivers - Suyfun River - Bay of Peter the Great;

3. Amur River - Lakes Bol'shoye and Maloye Kizi - canal of De Kastri Bay;

4. Amur River - Chlya Lake - canal to Sakhalin Bay of Sea of Okhotsk.

The construction of the Sungari - Liao-ho canal, about 300 km long, is of great importance for the CPR for it would allow direct connection by inland waterways between all river basins of the country. The freight turnover of the canal will reach several million tons and the new canal will permit to increase considerably the irrigated areas under crops.

In order to feed water to the canal it is proposed to install a catchment basin fed by the Nun-chiang and other rivers along the route of the canal. But the discharge of these rivers will be insufficient for the normal exploitation of the canal therefore the possibility of additional feeding of the canal by diverting water through a tunnel or by pumping stations from the Amur River into Nun-chiang River is now being studied.

The new canal will permit to redistribute the export-import freight flows between the USSR and the CPR through the transshipment of a series from maritime and rail haul to river transport.

A 1,000 km long connection through the watershed of the basin of the Lefu and Suyfun rivers permits a direct waterway connection between Khabarovsk and Vladivostok. In order to allow the sailing of class "O" vessels on the canal, it is indispensable to carry out the corresponding dredging and deepening works, but at the same time class "R" vessels will not be able to sail out into Lake Khanka. Lowering of the level of the lake for irrigation objectives will make it necessary to cut deeper channels in the lake or around it. Cuts and also small raises of the level of the reservoir and the locked sectors of the canal on the Lefu-Suyfun route will require considerable capital investments.

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The construction of navigable locks in the hydropower development is of great importance in the development of the river transport in the Amur River basin. Many heat and electric power plants and hydropower developments of the most diverse capacities can be built in the basin. The cost of the installations of ship passing installations reaches in some cases 20 to 30% of the total cost of the hydropower development. Therefore the selection of the type of navigable locks and their dimensions must be throughly studied. At the present moment, this problem is still poorly studied. But it is most probable, that in the upper reaches of the rivers, where freight flow is insignificant, hydropower developments should be preferably built without navigable locks, and freight sailing from one pool to the other can be transshipped to vessels plying that pool.

The above article does not pretend to cover all problems affecting the development of transportation, but only to acquaint the readers with the perspectives of the development of river transport in the Amur River basin.

Name of River Am	Sector	Length of sector (in km.)	Average duration of Navigation (in days)	Minimum Navigation depths (in cm)
Amur	Pokrovka-Blagoveshchensk (Hei-ho)	895	170	130
"	Blagoveshchensk-Khabarovsk	1.194	190	185
"	Khabarovsk-Estuary	1.673	185	320
Zeya	Estuary of Arga River-Estuary	966	167	110
Sungari	Kharbin-estuary	590	200	150
Ussuri	Khutou-estuary	347	195	110

(Rechnoy Transport, No. 5, May 1957, p. 9)

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Small electric power plants in the basins of the Suyfun and Ussuri rivers will eliminate the harm caused by floods and will improve the power resources of the Maritime Kray, and also extend by several hundred thousand hectares the areas under crops. In addition, this connection is interesting from the transport point of view, for the route of the canal passes close to and parallel to the double track railroad trunkline that has great transit and carrying capacity. Therefore the railroad transport on this sector will be able to bear the load of all the possible freight flow from the artificial connection. At the same time, the railroad transport brings a great volume of freight into the Amur oblast' and into the Khabarovskiy kray from the European part of the USSR.

The waterway linking the Amur River to lakes Bol'shoye and Maloye Kizi and other water routes of this area has great significance for th reduction of transport expenditure and the speeding up of freight shipments to ports not merely of Sakhalin, and the Sea of Okhotsk, but likewise Kamchatka. At present transport between these areas is effected through the maritime ports of Vladivostok, Nakhodka and Vanino. The total excess run of freight on the rail and maritime haul is 500 to 600 km on the average.

The technical realization of the above plan can take place according to the following projects: 1) by raising the Amur River water level by a dam near Nikolayevsk, or 2) without such a dam. In the first case, depths sufficient for the passage of seagoing craft can be ensured until Komsomol'sk, and later on even to Khabarovsk.

The water level in the lakes Bol'shoye and Maloye Kizi will rise to levels corresponding to that of the Amur River and no additional works will be required. The canal, 15 km long, will pass through the watershed sector and terminate by navigable locks for the exit of vessels to the sea. The depths of Tabo Bay (Bukhta Tabo) are quite sufficient and no additional works on the water and its approaches are needed. Taking into consideration the difficulty of building a hydropower development near Nikolayevsk, a possibility was under study to build this connection without such a rise in the water level. In this case, it will be necessary to cut deeper channels almost along the entire route to Sofiysk, and to build entrance and exit navigation locks and a pumping station to maintain sufficient levels along the entire route. Depths until Komsomol'sk will then be lesser, but quite sufficient for vessels not only of mixed, but of maritime type.

The usefulness of linking the Amur River with Tabu Bay, thus by-passing the Amur estuary is evident, the more so as this connection can be carried out without the construction of a hydropower development in the lower course of the Amur.

Matters are somewhat different as to the connection through Lake Chlya. This requires a raise in the water level in the lower course of the Amur River in the Nikolayevsk area. As the construction of a hydropower installation in this area has to be thoroughly studied because it may react unfavorably in the fishing industry of the area, itis not considered among the perspectives of the development of the river transport in the Amur River basin.

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Bibliography

Books and Official Publications

Apollov, V. A. Ucheniye o Rekhakh (Course on Rivers), Moskva University Press, 1952, 522 p.

Artamonov, D. S. Transport i Torgovlya po Vostochnoy Granitse SSR (Transport and Trade on the Eastern Frontier of the USSR) Moskva, 1928, 296 p.

Atlas Mira (World Atlas) Moskva, 1954, MVD edition. 284 p.

Baranskiy, N. N. Ekonomicheskaya Geografiya SSR (Economic Geography of the USSR). Moskva, 1952, 415p.

Berg, L. S. Geograficheskiye Zony Sovetskogo Soyuza (Geographic Zones of the Soviet Union). Moskva, 1952, 510 p.

Berg, L. S. Priroda SSR (Nature in the USSR). Moskva, 1955, 497 p.

Bodnarskiy, M. S. Slovar'Geograficheskikh Nazvaniy (Dictionary of Geographic Names). Moskva, 1954, 368 p.

Bogoslovskiy, M. A. Vnutrenniye Vodnyye Puti (Inland Waterways). Moskva, 1948, 364 p.

Burskiy, P. Dal'nevostochnyye Teatry Voyennykh Deystviy (Far Eastern Theaters of Military Operations). Moskva, Leningrad, 1928, 200 p.

Chefranov, S. V. Geografiya SSR (Geography of the USSR), Moskva, 1955, 199 p.

Chekrenev, A. I. Vodnyye Puti (Waterways). Moskva, Leningrad, 1953, 511 p.

Dal'nevostochnyy Kray (The Far Eastern Kray). Moskva, Leningrad, 1929, 155 p.

Davydov, L. K. Gidrografiya SSR (Hydrography of the USSR). Vol. I, Leningrad, 1953, 184 p.

Davydov, L. K. Gidrografiya SSR (Hydrography of the USSR). Vol. II, Leningrad, 1953, 1955, 600 p.

Davydov, L. K. Vodonosnost' Rek SSR i eye kolebaniya i vliyaniye na neye fizikogeograficheskikh faktorov (Volume of Flow of USSR Rivers and its Variations and the Influence Exerted on it by Physical and Geographic Factors). Leningrad, 1947, 162 p.

Geologicheskiy Slovar' (Geological Dictionary). Vol. I, A-L, Moskva, 1955, 402 p.

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.—31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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Guide to the Great Siberian Railway, St. Petersburg, 1900, 520 p.

Klimentov, P. P. Gidrogeologiya (Hydrogeology), Kratkiy kurs obshchey i rudnichnoy gidrogeologii (Brief Course of General and Mining Geology), Moskva, 1955, 312 p.

Kryuchkov Ye. V. and Sivenkov, I. I. Nizhne-Amurskaya oblast' (The Lower Amur Oblast'). Khabarovsk, 1940, 82 p.

Kratkaya Spravochnaya Knizhka po rechnomu transportu (Short Guide to River Transport). Moskva, 1953, 417 p.

Lebedev A. and Yakovlev, B. Transportnoye Znacheniye gidrotekhnicheskikh sooruzheniy SSR (Transport Significance of the Hydrotechnical Constructions of the USSR). Munchen, 1954, 207 p.

Liverovskiy Yu. A. and Kolesnikov, B. P. Priroda Yuzhnoy Poloviny Sovetskogo Dal'nego Vostoka (The Nature of the Southern Half of the Soviet Far East). Moskva, 1949, 382 p.

Makkaveyev N. I. Ruslo reki i Eroziya v yeye basseyne (The River Bed and Erosion in its Basin). Moskva, 1955, 346 p.

Mikhaylov, N. N. Zemlya Russkaya (Russian Soil). Moskva, 1946.

Murzayev, Ye. M. Severo-Vostochnyy Kitay (North-Eastern China). Moskva, 1955, 252 p.

Naumov, A. I. Osnovy shturmanskovo dela (Fundamentals of Pilot) Moskva, 1956, 314 p.

Nikiforov, V. F. Rechnyye Porty (River Ports), Moskva, 1948, 448pp.

Ocherki po Gidrografii Rek SSR (Outlines of the Hydrography of USSR Rivers). Moskva, 1953, 324 p.

Patrioty Dal'nego Vostoka (Patriots of the Far East). Moskva, 1946.

Pavlov M. Ya. and Goroshchenko V. P., Geografiya SSR (Geography of the USSR), Moskva, 1946, 248 p.

Petrov, Ya. P. Paromotornyy Flot (Steam and Motor Fleet). Moskva, Leningrad, 1947, 423 p.

Platov, V. G. Rechnyye Perevozki gruzov v universal'nykh konteynerakh (River Shipments of Freight in Standard Containers). Moskva, 1956, 158 p.

Primorskiy Kray (Maritime Kray), 1922-1947 Vladivostok, 1947, 423 p.

Popkov I. F. Obshchaya Lotsiya Vnutrennikh Vodnykh Putey (General Navigation Guide to Inland Waterways). Moskva, 1955, 332 p.

Putevoditel' po Velikoy Sibirskoy Magistrali (Guide to the Great trans-Siberian Railroad). 1903-1904.

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Shanchurov, P. N., Osnovy sudovozhdeniya po vnutrennin vodnym putyam (Fundamentals of Navigation of Inland Waterways). Moskva, 1954, 358 p.

Solov'yev, I. F., Planirovaniye perevozok gruzov rechnym transportom (Planning of River Hauled Freight Shipments). Moskva, 1955, 192 p.

South and East Coasts of Korea, East Coast of Siberia and Sea of Okhotsk Pilot. London, 1952, 666 p.

Southeast Coast of Siberia and Korea. Sailing Directions, H. O. Publication, No. 122B, of the Hydrographic Office, U.S. Navy, Washington, D.C., 1951, 484 p.

Sputnik turista po Dal'nemu Vostoku (Turist Guide-book for the Far East). Khabarovsk, 1929, 162 p.

Stepanov, P. N., Geografiya Promyshlennosti SSR (Geography of the USSR Industry). 1955.

Ministry of Communications, Tarifnoye Rukovodstvo (Tariff Handbook). No. 1-4, 1955.

Valyakhin Nikolayevskiy-na-Amure Port (Port of Nikolayevsk on the Amur). Nikolayevsk-na-Amure, 1926, 169 p.

Vodnyy Transport (1923-1934) Statisticheskiy Sbornik (Statistical Collection). Moskva, 1936, 117 p.

Voprosy Geografii (Problems of Geography). Fizicheskaya Geografiya Azii (Physical Geography of Asia). Moskva,1954, 352 p.

World Ports Index. U. S. Hydrographic Office. Washington, D.C.,1953.

Encyclopedias

Bol'shaya Sovetskaya Entsiklopedia (Great Soviet Encyclopedia) Vols. 1, 2, 1926; Vol. 62, 1933; Vol. 56, 1936; Vol. 33, 1938; Vol. 42, 1939; Vol. 52, 1947; Vol. 2, 1950; Vol. 17, 1952; Vols. 24 and 25, 1953; Vol. 30, 1954; Vols. 34, 35, 1955; Vol. 41, 1956.

Sibirskaya Sovetskaya Entsiklopediya (Siberian Soviet Encyclopedia) Vols. 1, 2, 1929; Vol. 3, 1931.

NOTE: THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U. S. C.— 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE, USAF.

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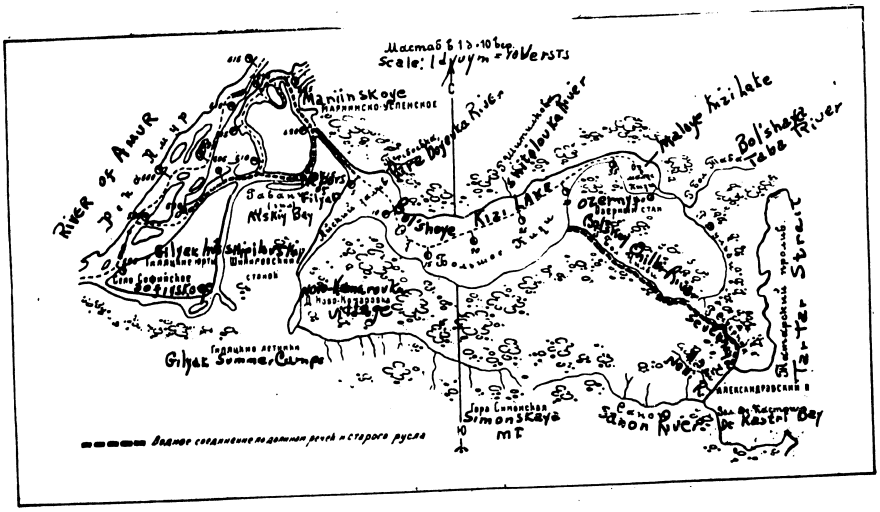

Fig. 1 - Map of projected connection of the Amur River and De Kastri Bay in the Strait of Tartary via Lake Kizi

SOURCE: D. S. Artamonov, p. 248, 1928

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Fig. 2 - View of the Amur

SOURCE: Otto Heller, Vladivostok, 1932, page facing 128

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Fig. 3 - Russian village on the Amur River

SOURCE: Otto Heller, Vladivostok, 1932, page facing 128

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Fig. 4 - Amur River Upper Reaches

SOURCE: Primorsko-Amurskaya Okraina, 1917, p. 19

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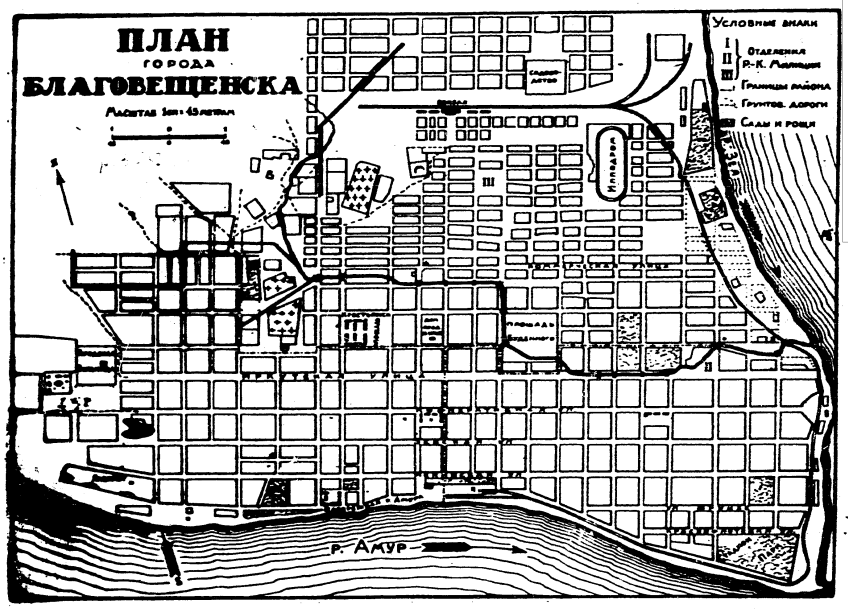

Fig. 5 - Plan of the city of Blagoveshchensk

SOURCE: SSL, Vol. 1, 1929, p. 350

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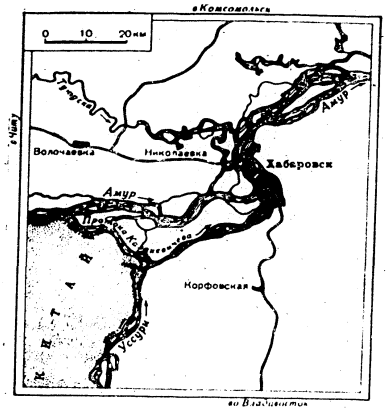

Fig. 6 - The city of Khabarovsk and outlying area

Author: N. I. Grunskiy, 1935, p. 200

Fig. 7 - Left to right: City Administration building, Far East Administration building in Khabarovsk

Author: Otto Schmidt, Khabarovsk

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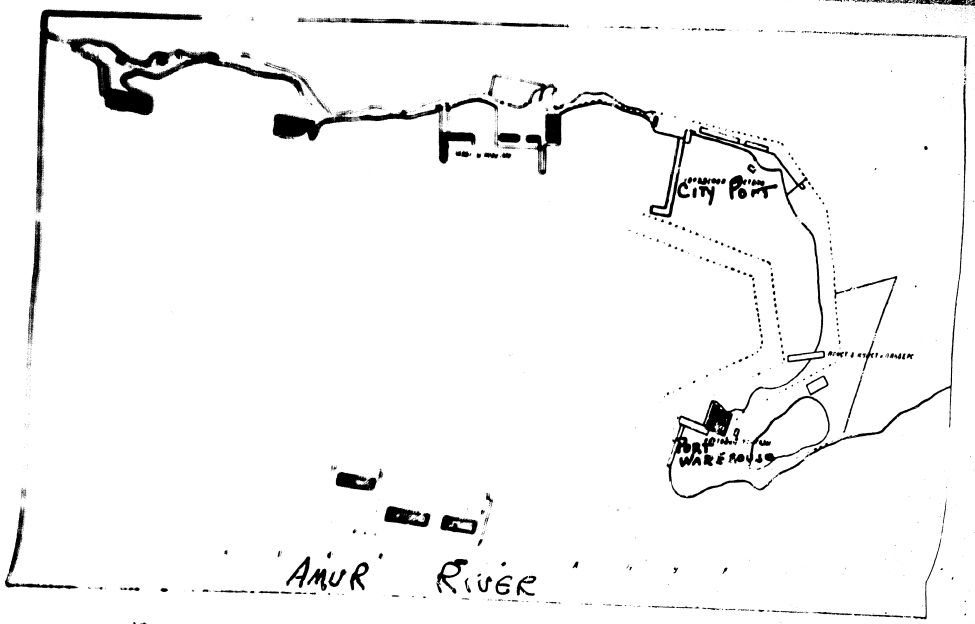

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